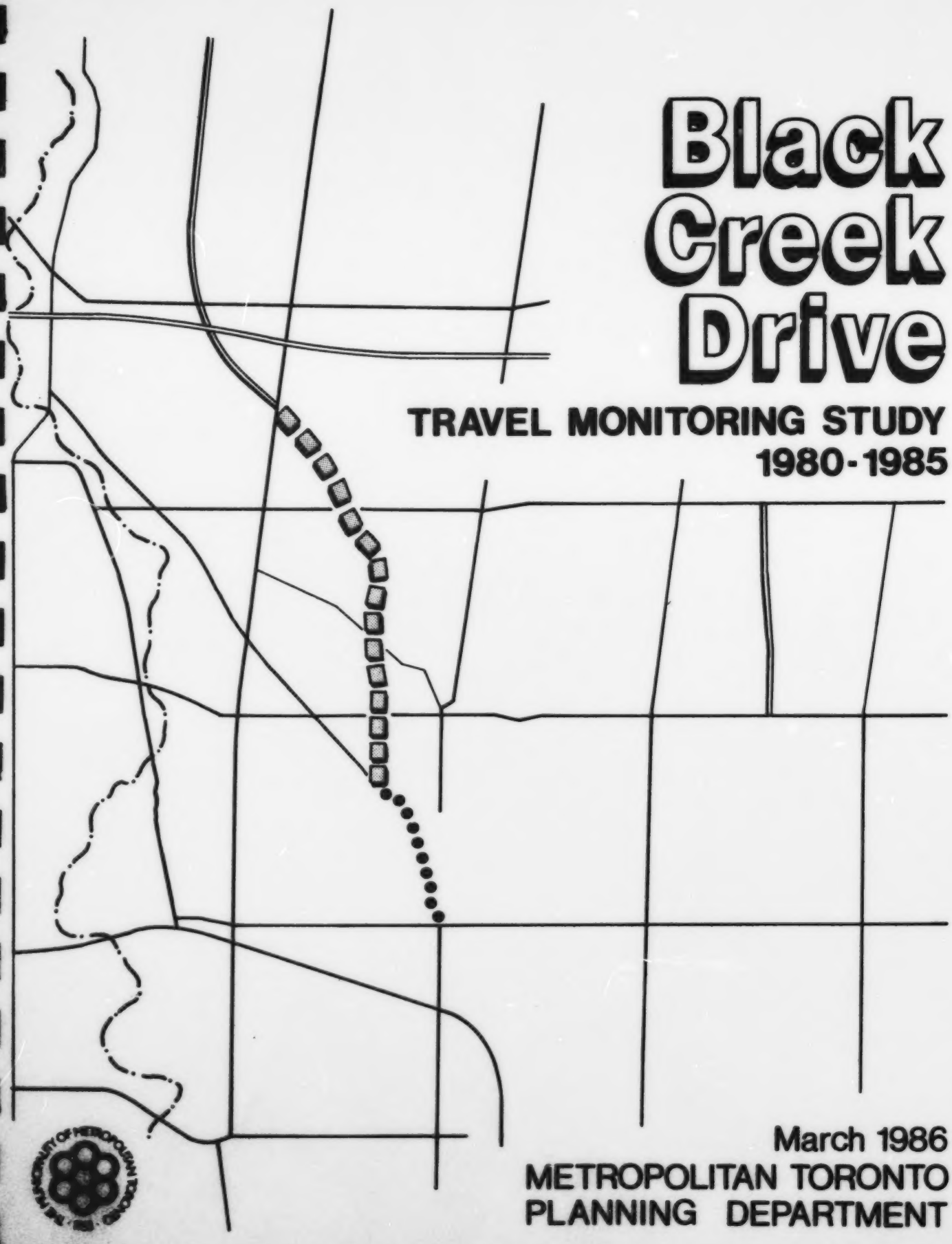

Black Creek Drive

TRAVEL MONITORING STUDY 1980-1985

March 1986

METROPOLITAN TORONTO
PLANNING DEPARTMENT

BLACK CREEK DRIVE TRAVEL MONITORING STUDY

I. INTRODUCTION

The Metropolitan Transportation Committee at its meeting on February 11, 1980, had before it a communication from the then Borough of York, dated January 24, 1980, concerning the Borough's request that the Ministry of Transportation and Communications undertake a detailed study of the impact of the Northwest Metro Arterial Road (now Black Creek Drive) on the Mount Dennis area. The Committee directed the Commissioner of Planning and the Commissioner of Roads and Traffic to "undertake a comprehensive study on the impact of the extension of the Northwest Metro Arterial Road on the Mount Dennis area, in conjunction with the appropriate officials of the City of Toronto, the Borough of York and the Province of Ontario, and to report thereon to the Committee in order that the Committee may present its views to the Province".

In addition, in response to a subsequent request from the Borough of York, dated February 18, 1980, the Metropolitan Transportation Committee at its meeting on February 25, 1980, decided to establish a staff committee comprising members of the Metropolitan Department of Roads and Traffic, Metropolitan Department of Planning and the Toronto Transit Commission and including representatives from the Borough of York and the City of Toronto in order to assess the impact of the Northwest Arterial Road (Black Creek Drive) , through the implementation of an area-wide monitoring program.

As directed by the Transportation Committee, a meeting of the aforementioned staff committee was held on March 5, 1980, and the staff committee decided to undertake comprehensive before and after traffic surveys in the Black Creek Drive corridor as part of a co-ordinated traffic impact study to be conducted by the Metropolitan Planning Department.

The "before" traffic counts for the Black Creek Drive Travel Monitoring Study were undertaken during May of 1980. This information, combined with data from the Toronto Transit Commission on transit flows and data from the Roads and Traffic Department on speeds and delays in the corridor, comprise a data set which gave an overview of existing travel in the area approximately 24 months prior to the opening of Black Creek Drive.

Black Creek Drive was completed and opened to traffic in two sections:

Jane Street to Eglinton Avenue in June, 1982; and
Eglinton Avenue to Weston Road in October, 1982

The "after" traffic counts for the Black Creek Drive Travel Monitoring Study were conducted in conjunction with the 1985 Metropolitan Cordon Count program during June of 1985. As in 1980, this information was combined with TTC transit data and speed and delay data to summarize travel in the study area for 1985.

Taken together, the 1980 and 1985 data sets comprise a comprehensive inventory of "before and after" traffic counts that were analyzed to evaluate the effect of the opening of Black Creek Drive on the area transportation network. In addition the data collected will be used as input to studies to be undertaken jointly with the City of Toronto to determine road rights-of-way requirements as outlined in Figure 9 of the Metropolitan Official Plan and to determine the effects of Black Creek Drive on the Mount Dennis area of the City of York.

Study Area

For the purpose of the "before" and "after" traffic surveys, the area bounded by Wilson Avenue on the north, Weston Road/Jane Street on the west, St. Clair Avenue on the south and Dufferin Street on the east could have represented a reasonable study area. However, since it was felt that the

opening of Black Creek Drive might reduce traffic in the Allen Road corridor, the study area was enlarged to include Allen Road and the Bathurst Street/Eglinton Avenue intersection. The area defined in the Official Plan as a location of traffic management studies to determine road rights-of-way for inclusion on Figure 9 of the Metropolitan Official Plan is bounded by Rogers Road, Dundas Street, Runnymede Road and Old Weston Road. The Mount Dennis area in the City of York is bounded by Alliance Avenue, Weston Road and Jane Street. These areas are all shown on Figure 1.

Information supplied by the Research Division of the Metropolitan Planning Department indicated that population within the study area rose from 194,200 in 1980 to 199,600 in 1984[1], an increase of 2.8 per cent. However, employment within the study area decreased from 82,350 in 1981 [2] to 77,780 in 1984, a drop of 5.5 per cent.

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1. 1985 population and employment figures are not yet available.
2. Employment information is not available for the study area prior to 1981.

II DATA COLLECTION

Data for the Black Creek Drive Travel Monitoring Study was collected using a number of types of surveys to ensure a comprehensive data set was obtained. These surveys included:

(i) intersection traffic counts;
(ii) Cordon counts;
(iii) travel time speed and delay studies; and
(iv) transit passenger counts.

Intersection Traffic Counts

Manual traffic counts were taken on May 28, 29, and 30, 1980 and on June 17 and 18, 1985, from 7:00 A.M. to 9:30 P.M. and from 3:00 P.M. to 6:00 P.M. at most of the major intersections in the study area, as illustrated on Figure 2. All vehicles, classified as either auto, trucks or public transit vehicles, were counted by 15-minute periods during the A.M. (6:30 to 9:30) and P.M. (3:30 - 6:30) peak periods. Staffing for the study was provided by the Metropolitan Planning Department, Metropolitan Roads and Traffic Department, City of Toronto Public Works Department, City of North York Traffic Department and City of York Departments of Planning and Public Works in 1980, and the Metro Planning Department, City of Toronto Public Works Department and the City of North York Traffic Department in 1985. Metro Planning staff were responsible for the coordination of the joint efforts in both 1980 and 1985.

In addition to these counts hourly automatic traffic counts were taken for the whole day at fifteen locations throughout the study area by the Metro Roads and Traffic Department and the City of Toronto Public Works Department. The results of automatic counts were used for the purpose of checking the traffic volumes between intersections. Traffic volumes on the ramps to and from Highway 401 for 1980 and 1985 were obtained from the Ministry of Transportation and Communications.

Since the counts for each year were not taken on the same day and a relatively large area was covered, different peaking characteristics were observed at different intersections. As a result, a uniform peak hour for the study area was not calculated and each intersection was summarized based on its individual A.M. and P.M. peak hours.

Cordon Counts

To supplement the data collected at each major intersection in the study area, data were obtained from the Metro cordon count data files for each odd year from 1975 to 1985 for the cordon count screenlines located in the study area shown in Figure 3.

These data, collected every two years, were used to verify changes in travel patterns between 1979 and 1985 and to show the overall changes that have been occurring in the study area since 1975.

Travel Time Speed and Delay Measurements

Detailed information on travel times and delays along the major arterial roads illustrated in Figure 4 were obtained from field surveys conducted by the Metropolitan Roads and Traffic Department in 1980 and by the Metropolitan Planning Department with the assistance of students from the Transportation Planning Program at Mohawk Community College in Hamilton in 1985.

Average speed of traffic on each section of the arterials surveyed and cumulative travel times were calculated for 1980 and 1985 for the A.M. and P.M. peak periods in both directions.

Transit Passenger Counts

Transit passenger data for each route in the study area for 1980 and 1985 were supplied by the Toronto Transit Commission. In 1980 the TTC counted arriving and departing passenger loads at every major intersection from 7:00 A.M. to 7:00 P.M. for each TTC route in the study area. However, due to staffing constraints, the TTC were unable to duplicate these counts in 1985. As a result, the 1985 peak hour TTC passenger information are based on TTC riding counts factored by a peak hour factor. The differences in counting procedure may result in some minor discrepancies in the transit data between 1980 and 1985.

III VEHICLE MOVEMENTS

Metropolitan Toronto Cordon Count Data

Peak period total vehicle counts across the Railway and Suburban cordons for the cordon count years 1979 and 1985, are illustrated on Figure 5 (7:00 A.M. - 9:00 A.M.) and Figure 6 (4:00 P.M. - 6:00 P.M.).

A.M. peak period (7:00 A.M. - 9:00 A.M.) vehicular travel across the Humber River and Highway 401 screenlines, which are part of the Suburban cordon, increased between 1979 and 1985 from 5.3% (Humber) to 6.7% (Highway 401) in the inbound direction and from 13.2% (Humber) to 14.0% (Highway 401) in the outbound direction. Similar increases were observed across the Railway North screenline, 5.9% inbound and 10.7% outbound, while higher increases were observed across the Railway West screenline, 11.8% inbound and 18.6% outbound. Travel across the parts of the Suburban cordon which border the study area increased at a faster rate than the cordon as a whole inbound across the Humber River, were approximately equal outbound across the Highway 401 and increased at a slower rate than the cordon as a whole outbound across the Humber River and inbound across Highway 401.

P.M. peak period (4:00 P.M. - 6:00 P.M.) vehicular travel across the Humber River and Highway 401 screenlines increased from 14.9% (Highway 401) to 24.4% (Humber) in the inbound direction and from 2.3% (Humber) to 13.0% (Highway 401) in the outbound direction. As during the A.M. peak period, the Railway North screenline exhibited similar increases, 10.9% inbound and 2.3% outbound; however, on the Railway West screenline, there was a 18.6% increase observed inbound, while a 3.3% decrease was noted in the outbound direction. Travel across the parts of the cordon bounding the study area increased at a slower rate in all directions compared to the remainder of the cordons outside the study area.

In addition to the data illustrated on Figures 5 and 6, information from individual cordon count stations within the study area located on the Humber River and Newmarket CN Subdivision screenlines (north-south) and the Highway 401 and Eglinton Avenue screenlines (east-west) were analyzed for the A.M. and P.M. peak hours. Table 1 contains the results of the analyses of these screenlines.

The following changes in east-west auto vehicle counts (across the north-south screenlines) were observed between 1979 and 1985:

- percentage changes between the 1979 and 1985 counts generally were the same as observed across the cordons illustrated in Figures 5 and 6;

- A.M. and P.M. peak hour outbound counts across the section of the Humber screenline bordering the study area differed from the general pattern of small increases, in east-west traffic, as the A.M. peak hour counts decreased 9.6% and the P.M. peak hour counts decreased 0.1%; and

- the decreases noted at the Humber screenline resulted from lower 1985 counts at the Eglinton Avenue cordon count station located at the Humber River during both the A.M. (14.3% decrease) and the P.M. (1.8% decrease) peak hours.

North-south auto vehicle count (across the east-west screenlines) change between 1979 and 1985 were as follows:

- A.M. peak hour counts
  - Highway 401 screenline (Humber River to and including Allen) + 3.1% inbound, + 11.6% outbound
  - Eglinton Avenue screenline (Humber River to and including Allen) + 20.6% inbound, + 16.8% outbound

- o P.M. peak hour counts
  - Highway 401 screenline (Humber River to and including Allen) + 5.6% inbound, + 8.3% outbound
  - Eglinton Avenue screenline (Humber River to and including Allen) + 21.5% inbound, + 25.8% outbound

- o north-south travel at the Eglinton screenline increased at a significantly higher rate than was observed across the cordons illustrated in Figures 5 and 6; and

- o north-south travel in the study area across the Highway 401 screenline increased at a lower rate than was observed across the entire Highway 401 screenline in both the A.M. and P.M. peak hours.

It important to note the differences in the peak direction of travel observed across these screenlines compared to the generally assumed directions in Metro Toronto of AM -southbound and PM -northbound:

Time Period	Screenline	Peak Direction of Travel
AM Peak Hour	Highway 401	Outbound (Northbound)
	Eglinton	Outbound
PM Peak Hour	Highway 401	Outbound
	Eglinton	Inbound (Southbound)

The peak directions of north-south travel are opposite to the directions normally expected in Metropolitan Toronto at three of the four screenlines.

Overall, the examination of the cordon count data for the years 1979 and 1985 indicated a general 5 to 15 per cent. increase in total vehicle trips across the Suburban and Railway cordons for both the A.M. and P.M. peak periods. A detailed analysis of cordon count stations located on screenlines

within the study area showed comparable increases in A.M. and P.M. peak hour vehicular travel in the east-west directions, while showing significant increases, in the order of 20 - 25 per cent., in north-south travel across the Eglinton Avenue screenline. The detailed examination of the cordon count stations also indicated that the peak direction of travel in the study area in the north-south direction is reverse of the generally observed patterns for Metro Toronto.

Intersection Count Data

Data from the intersection counts conducted in 1980 and 1985 were processed to determine the A.M. and P.M. peak hour volumes for each intersection. These volumes are illustrated on Figures A1 and A2 enclosed in the jacket at the back of this report. (Note: the name of the road in Figures A1 and A2 has been changed from the Northwest Metro Arterial Road to Black Creek Drive).

A series of north-south and east-west screenlines, shown in Figure 7, were used to analyze the traffic flows crossing the major arterial roads in the study area. Although a uniform peak hour for the study area was not determined, the variances between the actual peak hours at each intersection were not significant, and therefore, individual intersection counts could be added together to determine screenline volumes.

Total vehicles crossing the study area boundary are shown in Table 2. Total vehicles into and out of the study area during the A.M. and P.M. peak hours increased approximately four percent between 1980 and 1985 with one exception: a 14.4% increase observed in inbound traffic to the study area during the P.M. peak hour.

Figures 8 and 9 and 10 and 11 illustrate A.M. and P.M. peak hour total vehicles crossing the screenlines shown in Figure 7 for the east-west and

north-south screenlines, respectively. Table 3 summarizes the total vehicle crossings over each screenline:

North-south A.M. peak hour vehicular volumes:

- o increased significantly across the Lawrence Avenue (21.5% inbound, 31.9% outbound) and Eglinton Avenue (10.2% inbound, 23.1% outbound) screenlines;

- o travel across the St. Clair Avenue screenline increased 5.0% in the inbound direction and decreased 2.4% in the outbound direction;

- o a reversal of the trend of increased north-south traffic was observed across Wilson Avenue as both inbound and outbound volumes decreased 5.8% and 7.1%, respectively;

North-south P.M. peak hour vehicular volumes:

- o increased across all screenlines in both directions except at St. Clair Avenue where a 2.8% decrease was observed in the outbound direction;

- o as noted during the A.M. peak hour, the Lawrence (33.1% inbound, 41.3% outbound) and Eglinton (21.0% inbound, 19.4% outbound) screenlines also had the highest observed increases during the P.M. peak hour;

East-west A.M. peak hour vehicular volumes:

- o travel inbound towards the Central Area increased significantly across the Jane (30.3%) and Dufferin (25.1%) screenlines, while marginally decreasing across the Keele (-0.1%) and Caledonia (-1.6%) screenlines;

- o outbound A.M. peak hour volumes increased slightly at Jane (1.8%) and Keele (1.7%) and decreased at Caledonia (-9.6%) and Dufferin (-18.0%);

East-west P.M. peak hour vehicular volumes:

- o increased across all screenlines in both directions, except inbound at Dufferin Street which had a marginal 1.6% decrease;
- o significant increases were observed inbound at Jane (69.6%) and Keele (17.6%) and outbound at Caledonia (27.6%); and
- o the increases at the Jane and Keele screenlines occurred as a result of significantly higher volumes on both Wilson Avenue and Lawrence Avenue.

Speed and Delay Data

Speed and delay data were collected in 1980 and 1985 for ten roadway sections in the study area and, in addition, collected in 1985 for Black Creek Drive. The data were processed using the Metropolitan Roads and Traffic Department's "SPEEDA" computer program. The results of that analysis are illustrated in Table 4.

Unfortunately, due to Metropolitan Toronto's first snowfall of the season on the day the 1985 speed and delay data was collected (Tuesday, November 26), the "after" speed and delay data may not be an accurate representation of general 1985 conditions and, therefore, comparisons to the 1980 data cannot be made with confidence. Budgeting and manpower limitations would not permit the re-collection of this "after" data on a day with less severe weather.

Discussion

(i) General

General increases in vehicular traffic in the order of 5% to 15% were observed in eastbound and westbound directions through the study area. These increases are of the same magnitude as observed across the Metro cordons, therefore, it would appear that the opening of Black Creek Drive did not have a significant impact on east-west travel in the study area.

Significant increases in north-south travel, especially across Eglinton Avenue and Lawrence Avenue were observed in the study area. These increases were approximately double the general increases observed between 1979 and 1985 across the Metro cordons. Therefore, although the opening of Black Creek Drive did not have a significant impact on east-west traffic flow, it is evident that it did have a significant impact on north-south traffic.

(ii) Black Creek Drive - A.M. Peak Hour

Decreases in traffic volumes, northbound and southbound, were observed on Jane Street, Weston Road north of St. Clair, Keele Street, Caledonia Road and Dufferin Street across every major east-west arterial. Some of the traffic that in 1980 used these north-south arterial roads has been re-routed to Black Creek Drive and to Keele Street, which is an extension of the Black Creek Drive corridor. This observation is confirmed by the high volumes on Black Creek Drive and the 20.3% A.M. peak hour and 28.4% P.M. peak hour increases in traffic across St. Clair Avenue on Weston Road/Keele Street.

East-west traffic, as noted earlier, generally increased in proportion to the rest of West Metro; however, certain sections of east-west roads were affected by the redistribution of traffic to Black Creek Drive. Lawrence Avenue westbound, west of Black Creek Drive, and between Dufferin and Caledonia, had a decrease in observed traffic volumes; while Lawrence eastbound in those sections showed above average increases in traffic volumes.

Black Creek Drive - P.M. Peak Hour

North-south traffic volumes in the P.M. peak hour showed a similar re-distribution to Black Creek/Keele as observed during the A.M. peak hour. However, unlike the A.M. peak hour, during which all of the north-south roads showed decreases, during the P.M. peak hour Caledonia southbound between Lawrence and Eglinton and Dufferin southbound between Wilson and St. Clair had increases in traffic between 1980 and 1985.

(iii) W.R. Allen Road

The study area of the Black Creek Drive Travel Monitoring Study was enlarged to include the W.R. Allen on-off ramps at Eglinton and Lawrence and the intersection of Bathurst and Eglinton to collect data on the possible effects of the Black Creek Drive opening on traffic in the Allen Road corridor. Table 5 details the changes in traffic volumes at these locations.

Although some reductions in traffic volumes were observed at the W.R. Allen corridor counting locations, notably at Eglinton and Bathurst (A.M. southbound and P.M. northbound), the general trend in the corridor was an increase in observed volumes. Therefore, as a result, it would appear that no significant traffic volumes were re-routed from the Allen corridor to Black Creek Drive.

(iv) Weston Road/St.Clair Avenue Area

The Weston Road/St. Clair Avenue area was designated as requiring further study in the 1980 Metropolitan Official Plan because, when the Official Plan was being prepared, Black Creek Drive was under construction and its impact on the traffic in the Weston/St.Clair area and, therefore, on the ultimate road right-of-way requirements could not be determined. For this reason the area was noted on Figure 9 of the Metropolitan Official Plan as requiring a traffic management study to be undertaken jointly with the City of Toronto to determine the future road right-of-way requirements.

Table 6 details the percentage changes in traffic volumes on the sections of roads in the St. Clair/Weston area between 1980 and 1985. As noted earlier in the discussion on Black Creek Drive, significant increases in traffic volumes were observed during both peak hours on Weston/Keele south of Black Creek Drive. Traffic volume changes on the other roadway sections in this area were much smaller, -15% to +15% in most cases, except Runnymede Road northbound at St. Clair (+29.4% A.M. +23.7% P.M.), St. Clair Avenue at Runnymede Road (18.7% in both A.M. and P.M. peak hours), Old Weston Road northbound at Rogers Road (+17.8% A.M., +13.2% P.M.) and Rogers Road westbound at Old Weston Road (+25.5% in the A.M. peak hour).

The significant increases in traffic on Weston/Keele in this area indicate a need to examine these roadway sections in more detail to determine if any capacity restrictions occur; however, the minor increases and decreases observed on the other roadways in this study area indicate no significant traffic volume increases have occurred on those roads as a result of the opening of Black Creek Drive.

(v) Mount Dennis Area

A.M. Peak Hour

North-south traffic volumes on the arterial roads in the Mt. Dennis area were reduced significantly as a result of the opening of Black Creek Drive. Traffic on Weston Road at Eglinton Avenue, decreased 32.6% southbound and 50.0% northbound and at Jane Street traffic decreased 30.4% southbound and 45.3% northbound. Traffic on Jane Street at Eglinton Avenue decreased 5.6% southbound and 13.2% northbound.

East-west traffic on Eglinton Avenue increased in proportion to the overall traffic growth of the study area, 8.9% eastbound and 7.2% westbound at Jane Street and 2.9% eastbound and -4.1% westbound at Weston Road.

P.M. Peak Hour

P.M. peak hour traffic in the Mount Dennis area also decreased significantly in the north-south direction on both Jane Street and Weston Road. Eastbound traffic on Eglinton Avenue at Jane Street and at Weston Road increased between 1980 and 1985; however, westbound traffic decreased at both intersections.

Overall, the opening of Black Creek Drive had a positive effect of reducing north-south arterial traffic volumes in the Mount Dennis area. As noted earlier in the discussion on Black Creek Drive, east-west traffic volumes were not, except for isolated areas, materially affected by Black Creek Drive; this was the case on Eglinton Avenue in the Mount Dennis area.

IV TRANSIT MOVEMENTS

Transit Route Changes 1980 - 1985

The opening of Black Creek Drive did not substantively affect the TTC's route structure because no scheduled transit service operates along the entire length of Black Creek Drive, nor is service expected to be provided on Black Creek Drive in the future. Figures 12 and 13 illustrate the TTC bus routes that were in operation in the study area during 1980 and 1985, respectively. Included on these figures are the A.M. peak hour service frequencies, in buses per hour, scheduled for each route.

Bus route changes are undertaken by the T.T.C. in response to changing passenger demands. Major route re-structurings that have occurred in the study area since 1980 are:

(i) Keele (41) - Forthbridge branch of the Keele (41) route was replaced by the Calvington (120) route and a new Keele (41) short-turn via MTC's Downsview complex was introduced;

(ii) York University (106) - the York University (106) route was re-routed from Wilson Avenue and Keele Street to the W.R. Allen Road and Sheppard Avenue;

(iii) Jane (35) - the Falstaff branch of the Jane (35) bus was replaced by the new Calvington (120) bus route from Wilson Station;

(iv) Malton (58) - the Malton (58) route was extended from the Weston GO station to the Lawrence West subway station; and

(v) Runnymede (70) - the Eglinton branch of the Runnymede (70) bus was extended to operate via Industry Street, Black Creek Drive and Eglinton Avenue.

Service level changes (i.e. the frequency of service) on all routes in the TTC's system are undertaken when passenger volume changes warrant; as such, most of the routes in the study area have had changes in the A.M. peak hour service levels since 1980.

Transit Passenger Screenline Data

Total transit passenger volumes across the study area boundaries are illustrated in Table 7. A.M. peak hour transit volumes between 1980 and 1985 increased by 23.5% inbound to the study area and by 30.4% outbound from the area. P.M. peak hour transit volumes increased at a lower rate, by 3.9% inbound and by 10.0% outbound.

North-south transit passenger volumes for the A.M. and P.M. peak hours are presented in Figures 14 and 15, respectively. A.M. peak hour transit volumes increased across every screenline in the study area except southbound at Wilson Avenue. The reduction in transit traffic at the Wilson screenline can be attributed to the re-routing of the Keele (41) and York University (106) bus routes which reduced the total number of transit vehicles crossing the screenline at Keele Street. Transit patronage on the York University (106) route was not included in the 1985 counts because the new routing for this service does not cross a screenline at one of the counting stations illustrated in Figure 7.

P.M. peak hour north-south transit passenger volumes also increased across every screenline except northbound at Wilson Avenue and southbound at St. Clair Avenue. The reduction in passengers recorded southbound at St. Clair results from a significant reduction in southbound passenger traffic on the Bathurst (7) buses. However, as noted in Section I, the different counting techniques used to determine transit flows in 1980 and 1985 could produce some inconsistent results. It would appear that there are inconsistencies in the data recorded for Bathurst Street because, although the recorded passenger volumes have decreased, the TTC has not changed the peak period service levels on this route during the study period, indicating a stable ridership level between 1980 and 1985.

East-west transit passenger volumes for the A.M. and P.M. peak hour are illustrated on Figures 16 and 17, respectively. A.M. peak hour transit volumes increased across every screenline in the study area. Reductions in A.M. peak hour east-west transit volumes were only recorded at three locations; Wilson at Bathurst, eastbound and westbound, and Eglinton at Bathurst, westbound.

P.M. peak hour transit volumes increased across every screenline except westbound at Bathurst Street. The decrease in volumes across Bathurst Street resulted from decreases recorded westbound at Bathurst and Lawrence and at Bathurst and St. Clair.

Discussion

Increases in total annual TTC revenue passenger volumes for all of Metropolitan Toronto were approximately 18 per cent. for the period 1980 to 1985, from 366.4 million passengers in 1980 to 432.2 million in 1985. A.M. peak hour transit volumes in the study area increased on the average approximately 25 per cent. for the same period, while P.M. peak hour volumes increased at a lower rate of approximately 10 per cent. Compared to the previously discussed increases in auto traffic volumes, it would appear that on a study area wide basis, transit passenger volumes grew approximately six times faster in the A.M. peak hour and three times faster in the P.M. peak hour than did total vehicular traffic.

On a Metro wide basis, based on 1979 and 1985 cordon count figures for 7:00 A.M. to 7:00 P.M. travel by auto and transit, travel by auto increased 37.6% across the Metro boundary cordon and 11.0% across the Suburban cordon, while travel by transit increased 46.6% across the Metro cordon and 37.8% across the Suburban cordon.

Although transit volumes increased in the study area at a faster rate than did vehicular traffic, auto and transit volume increases also occurred throughout the Metropolitan Toronto area during the period 1979 - 1985. Therefore, there is no conclusive evidence that the opening of Black Creek Drive directly affected transit passenger volumes in the study area. The increase in transit volumes in the study area resulted from a combination of factors, one of which may be the increase in total vehicular traffic, and, therefore, congestion, in the area.

V CONCLUSIONS

Major traffic volume changes in the study area between 1980 and 1985 are illustrated on Figures 18 and 19 for the A.M. and P.M. peak hours, respectively.

Black Creek Drive Study Area

The opening of Black Creek drive from Jane Street to Weston Road had a significant impact on north-south travel on the arterial roads located within the study area. North-south traffic volumes in the study area increased in the order of 25 per cent. from 1980 to 1985; however, traffic volume decreases were observed on Jane Street, Weston Road north of Black Creek Drive, Keele Street, Caledonia Road and Dufferin Street.

The increases in the overall study area traffic and the decreases on the arterial roads are reflected in the high volumes observed on Black Creek Drive and in the increased volumes observed on Weston/Keele between Black Creek Drive and Dundas Street. Therefore, the opening of Black Creek Drive not only increased the amount of traffic through the the study area, it also relieved some congestion on parallel roads by attracting a significant number of vehicles from the other north-south arterial roads to Black Creek Drive.

East-west traffic in the study area grew in proportion to the overall growth in east-west traffic in west Metro between 1980-1985. Therefore, except for a few isolated sections of east-west roads used for access to Black Creek Drive, the opening of Black Creek Drive did not significantly affect east-west traffic volumes.

Transit volumes in the study area grew from three to six times faster between 1980 and 1985 than did vehicular traffic volumes. However, overall growth in transit passenger volumes in Metro Toronto also increased in approximately the same proportion to vehicular traffic, therefore, there is no evidence to show the opening of Black Creek Drive had a significant effect on transit volumes in the study area.

W.R. Allen Road

The opening of Black Creek drive did not shift significant volumes of traffic from the W.R. Allen Road as traffic volumes increased at the majority of counting stations in the W.R. Allen corridor between 1980 and 1985.

Mount Dennis Area

The opening of Black creek Drive significantly reduced north-south arterial traffic volumes in the Mount Dennis area of the City of York. East-west traffic volumes on Eglinton Avenue in the Mount Dennis area were not affected by Black Creek Drive.

Weston Road/St. Clair Avenue Area

The area of further study outlined in Figure 9 of the Metropolitan Official Plan includes sections of St. Clair Avenue, Rogers Road, Old Weston Road and Weston Road/Keele Street. The opening of Black Creek Drive resulted in large increases of traffic on Weston Road/Keele Street between Rogers Road and Dundas Street. The traffic volumes on the other roads in the Weston/St.Clair area have not changed significantly since 1980.

This information will be used as input to the joint Metro/City traffic management study to be undertaken for this area.

TABLE 1

STUDY AREA SCREENLINE ANALYSIS*

SCREENLINE		TOTAL VEHICLES 1979	1985	% CHANGE
North-South Screenlines (east-west travel) - Dundas Street to south of Highway 401				
AM Peak Hour				
Humber River	Inbound	5614	6117	9.0
	Outbound	3894	3521	(9.6)
Newmarket Sub.	Inbound	6065	6856	13.0
	Outbound	4168	4237	1.7
PM Peak Hour				
Humber River	Inbound	4756	5115	7.5
	Outbound	5422	5397	(0.1)
Newmarket Sub.	Inbound	5698	6446	13.1
	Outbound	6639	7172	8.0
East-West Screenlines (north-south travel) - Humber River to and including W.R. Allen Road				
AM Peak Hour				
Highway 401	Inbound	9952	10262	3.1
	Outbound	11571	12910	11.6
Eglinton	Inbound	6262	7554	20.6
	Outbound	7020	8200	16.8
PM Peak Hour				
Highway 401	Inbound	10219	10787	5.6
	Outbound	12481	13519	8.3
Eglinton	Inbound	7241	8796	21.5
	Outbound	6928	8715	25.8

* for screenlines illustrated on Figure 3.

Black Creek Drive Travel Monitoring Study
Metropolitan Toronto Planning Department, March, 1986

TABLE 2

TOTAL VEHICLES CROSSING STUDY AREA BOUNDARIES*

	1980	1985	% Changes
AM Peak Hour			
Into the Study Area	14,265	14,881	4.3
Out of the Study Area	11,872	12,373	4.2
PM Peak Hour			
Into the Study Area	14,367	16,450	14.4
Out of the Study Area	15,667	16,282	3.9

* Determined at intersections counted as part of the Black Creek Drive Travel Monitoring Program

Black Creek Drive Travel
Monitoring Study
Metropolitan Toronto Planning
Department, March, 1986

TABLE 3

TOTAL VEHICLES CROSSING STUDY AREA SCREENLINES

	1980		1985		% Change	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
North-South Travel (across east-west screenlines)						
A.M. Peak Hour						
Wilson	3592	3990	3383	3708	(5.8)	(7.1)
Lawrence	4772	3994	5796	5268	21.5	31.9
Eglinton	4459	3920	4914	4825	10.2	23.1
St. Clair	3750	2740	3936	2674	5.0	(2.4)
P.M. Peak Hour						
Wilson	4056	4479	4061	5285	0.1	18.0
Lawrence	5004	4653	6662	6574	33.1	41.3
Eglinton	4668	4511	5646	5388	21.0	19.4
St. Clair	3510	4151	3898	4035	11.1	(2.8)
East-West Travel (across north-south screenlines)						
A.M. Peak Hour						
Jane	3956	2734	5154	2782	30.3	1.8
Keele	3829	2155	3808	2191	(0.1)	1.7
Caledonia	2799	1959	2754	1770	(1.6)	(9.6)
Dufferin	2732	3324	3418	2726	25.1	(18.0)
P.M. Peak Hour						
Jane	3554	4096	6027	4231	69.6	3.3
Keele	3295	4119	3876	4298	17.6	4.3
Caledonia	2952	2603	3089	3322	4.6	27.6
Dufferin	3704	3475	3643	3894	(1.6)	12.1

Black Creek Drive Travel
Monitoring Study
Metropolitan Toronto Planning
Department, March, 1986

TABLE 4

SPEED AND DELAY STUDY RESULTS

Route	Location	Time Period	1980 Avg.Speed MPH	1980 Avg.#of Delays	1980 Avg. Time per Delay (Sec)	1985 Avg.Speed MPH	1985 Avg.#of Delays	1985 Avg.Time per Delay (Sec)
Dundas	Dupont-Scarlett	A.M.	20.7	7.5	27.1	19.5	9.2	21.3
		P.M.	17.2	9.5	34.7	18.0	9.2	23.6
Keele/O.Weston	Dundas-Wilson	A.M.	19.7	20.8	28.9	16.6	27.3	21.4
		P.M.	17.0	22.2	40.3	14.2	35.0	33.2
Jane	Dundas-Wilson	A.M.	21.8	16.0	25.2	19.8	15.7	23.8
		P.M.	19.7	18.2	36.7	16.7	33.0	22.7
Caledonia	St.Clair-Lawrence	A.M.	19.8	8.2	29.4	16.7	12.4	28.8
		P.M.	17.8	8.0	36.5	17.3	11.2	29.7
Allen	Eglinton-Wilson Hghts	A.M.	40.6	0.9	64.9	35.8	2.3	22.2
		P.M.	40.3	1.4	62.9	37.2	5.7	27.4
Weston Rd.	Rogers-Lawrence	A.M.	22.0	8.3	29.8	19.7	8.6	25.9
		P.M.	18.4	11.5	33.0	13.5	16.0	34.9
Wilson	Jane-Wilson Heights	A.M.	25.7	7.2	28.8	16.1	12.3	40.3
		P.M.	22.7	9.5	37.0	18.8	19.5	39.1
Eglinton	Bathurst-Scarlett	A.M.	19.8	21.0	27.2	17.4	19.8	28.0
		P.M.	18.8	21.8	31.0	16.8	24.1	21.9
Lawrence	Bathurst-Weston	A.M.	22.6	13.2	31.5	16.4	21.3	33.1
		P.M.	19.2	18.7	40.4	14.4	26.0	33.0
St.Clair	Bathurst-Scarlett	A.M.	19.8	16.0	28.7	17.3	18.3	26.4
		P.M.	18.0	19.7	29.7	15.7	26.0	27.8
Black Creek Dr.	Jane-St.Clair	A.M.	-	-	-	20.5	13.2	34.6
		P.M.	-	-	-	18.9	15.2	38.3

NOTE: The 1985 speed and delay information was collected under poor weather conditions and, as such, may not accurately represent average 1985 conditions.

Black Creek Drive Travel Monitoring Study
Metropolitan Toronto Planning Department
March, 1986

TABLE 5

TRAFFIC CHANGES WITHIN W.R. ALLEN ROAD CORRIDOR

COUNT LOCATIONS		PERCENT CHANGE 1980 - 1985			
		A.M. PEAK HOUR		P.M. PEAK HOUR	
		INBOUND	OUTBOUND	INBOUND	OUTBOUND
Cordon Count Stations					
S. of Highway 401		(0.7)	2.4	2.4	0.9
N. of Eglinton Avenue		31.8	9.2	5.9	20.6
On-Off Ramps					
Lawrence	On - NB	-	15.5	-	(6.0)
	Off - SB	18.3	-	2.5	-
Eglinton	On - NB	-	4.1	-	18.0
	Off - SB	4.9	-	18.6	-
Eglinton and Bathurst Intersection					
North - South		(32.6)	31.2	47.6	(19.1)
East - West		53.6	(0.2)	16.1	34.0

Black Creek Drive Travel
Monitoring Study
Metropolitan Toronto Planning
Department, March, 1986

TABLE 6

TRAFFIC CHANGES WITHIN WESTON ROAD/ST. CLAIR AVENUE AREA

Intersection	Approach Direction	Percentage Change 1980 - 1985	
		A.M. Peak Hour	P.M. Peak Hour
Weston/Rogers	NB	23.2	20.1
	SB	34.9	62.5
	WB	2.5	(5.4)
Weston/St.Clair	NB	8.7	8.6
	SB	33.4	64.2
	EB	(12.8)	(4.3)
	WB	0.6	12.0
St.Clair/Runnymede	NB	29.4	23.7
	SB	(3.0)	14.2
	EB	18.7	18.7
	WB	(12.2)	(7.4)
St.Clair/Old Weston	NB	(4.0)	(20.2)
	SB	(4.8)	(11.1)
	EB	(3.9)	13.3
	WB	(8.2)	2.7
Rogers/Old Weston	NB	17.8	13.2
	EB	3.3	18.1
	WB	25.5	1.6

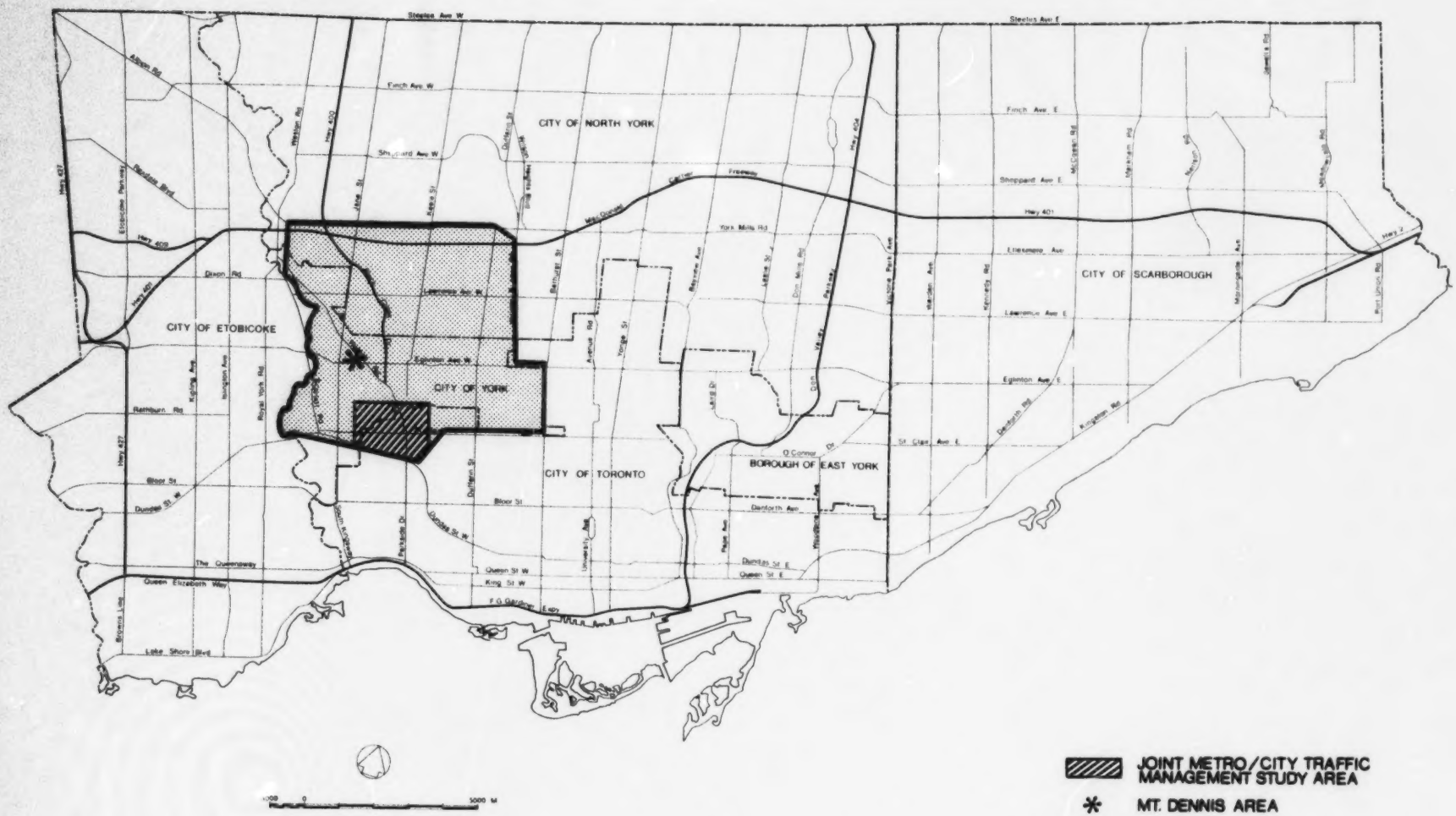
Black Creek Drive Travel
Monitoring Study
Metropolitan Toronto Planning
Department, March, 1986

TABLE 7

TRANSIT PASSENGER VOLUMES ACROSS STUDY AREA BOUNDARIES

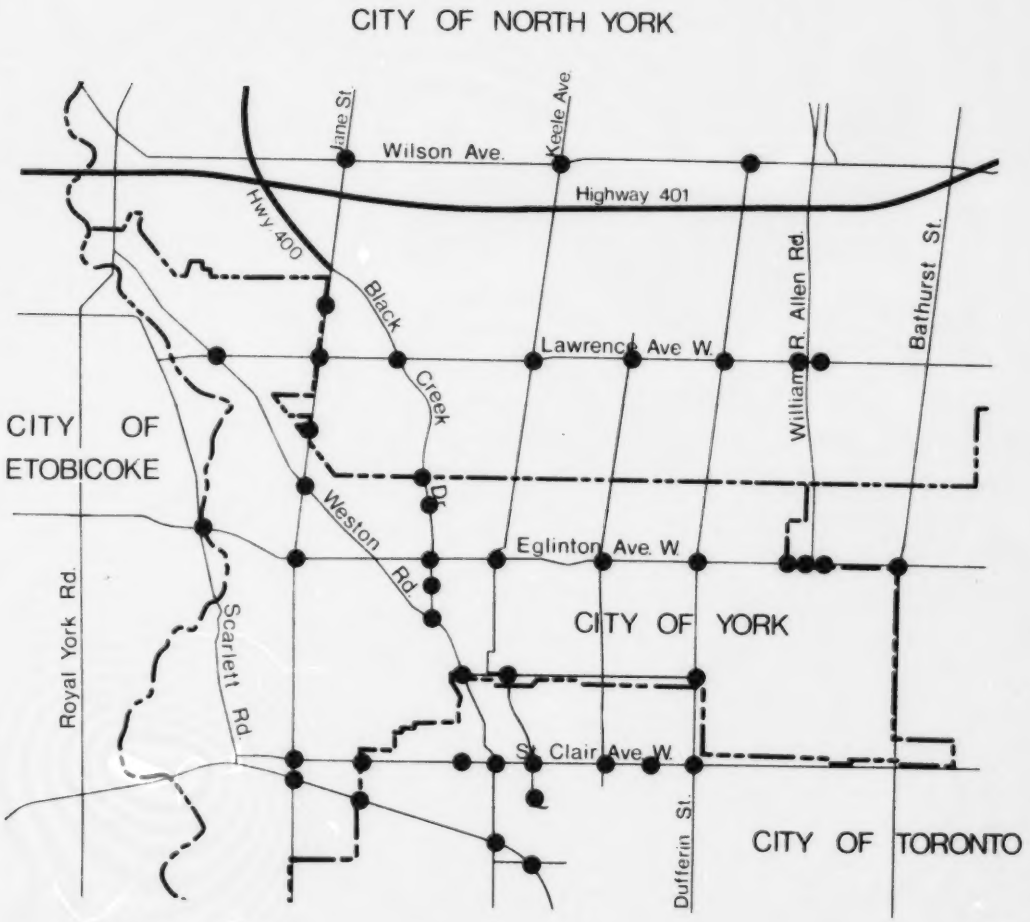
	1980	1985	% Change
A.M. Peak Hour			
Inbound to study area	7582	9364	23.5
Outbound from study area	9096	11860	30.4
P.M. Peak Hour			
Inbound to study area	9801	10182	3.9
Outbound from study area	8245	9068	10.0

Black Creek Drive Travel
Monitoring Study
Metropolitan Toronto Planning
Department, March, 1986



BLACK CREEK TRAVEL MONITORING STUDY
MTPD MARCH 1986

FIGURE : 1
STUDY AREA

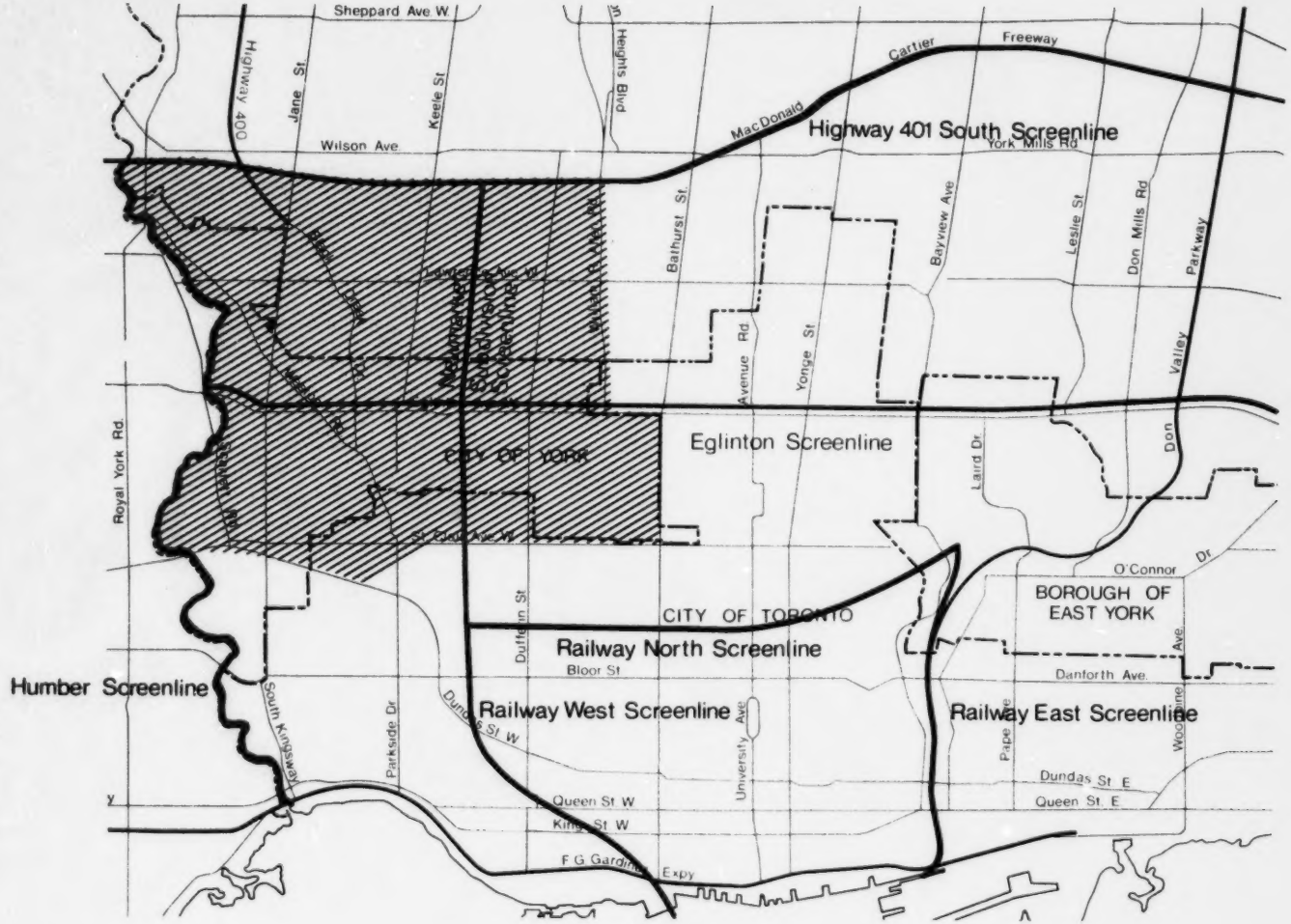


● INTERSECTIONS COUNTED IN 1980 AND 1985

● INTERSECTIONS COUNTED IN 1985 ONLY

BLACK CREEK DRIVE TRAVEL MONITORING STUDY
MTPD MARCH 1986

FIGURE 2 :
INTERSECTION COUNT LOCATIONS



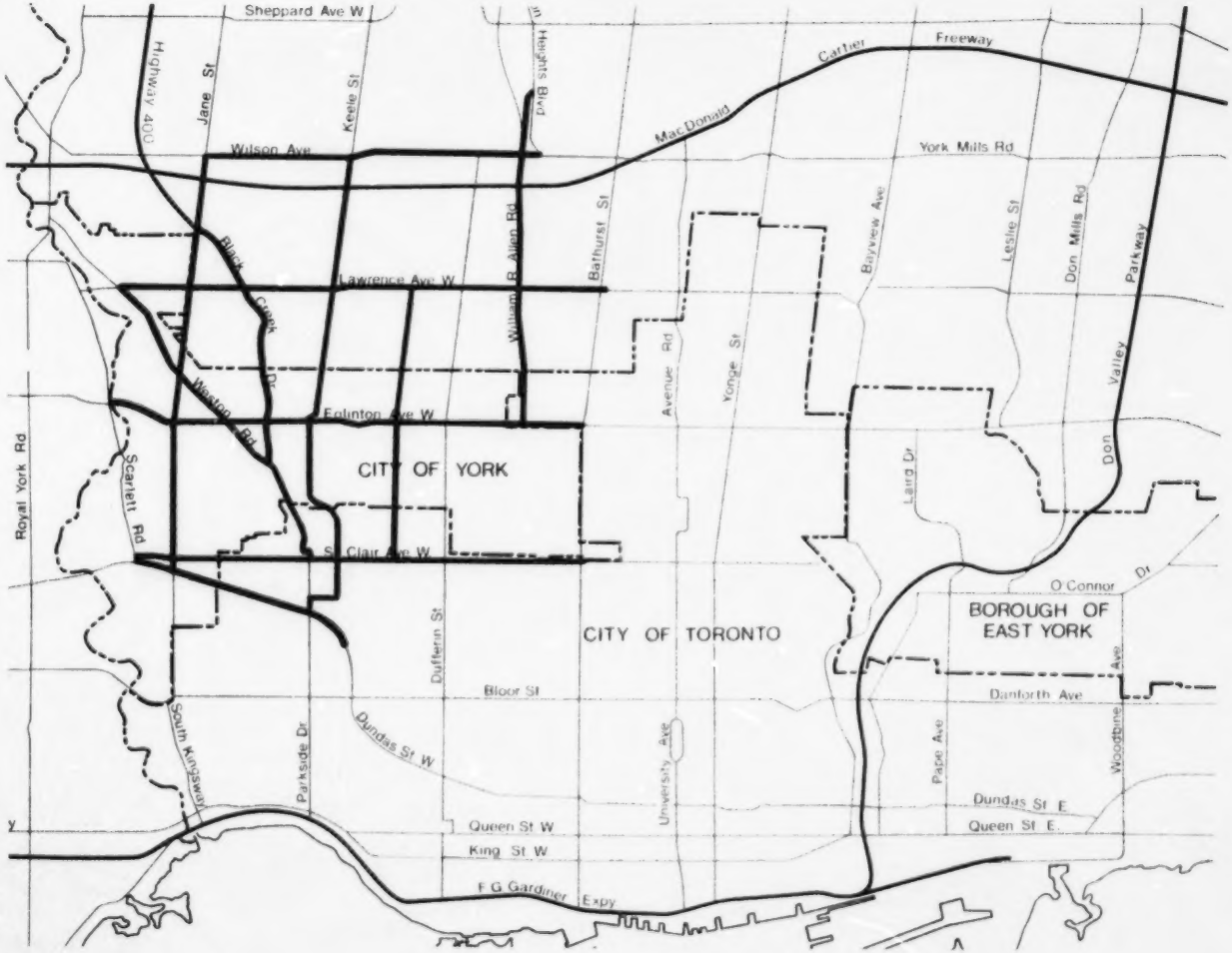
INNER AND OUTER SCREENLINES

OTHER SCREENLINES

STUDY AREA

BLACK CREEK DRIVE TRAVEL MONITORING STUDY
MTPD MARCH 1986

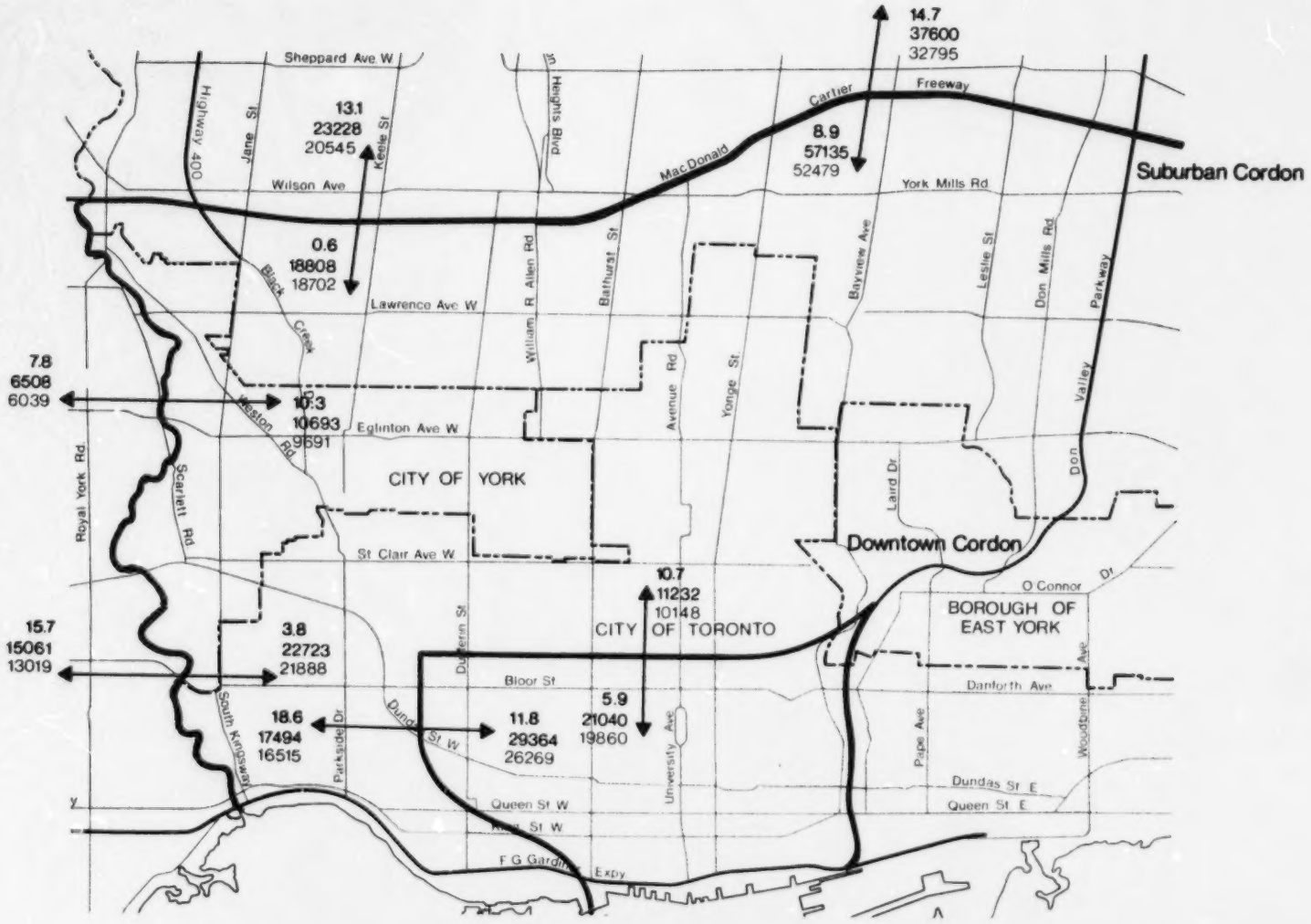
FIGURE 3:
METROPOLITAN TORONTO CORDON COUNT PROGRAM SCREENLINES



SPEED AND DELAY RUNS (1980 AND 1985)

FIGURE 4 :
LOCATION OF SPEED AND DELAY RUNS

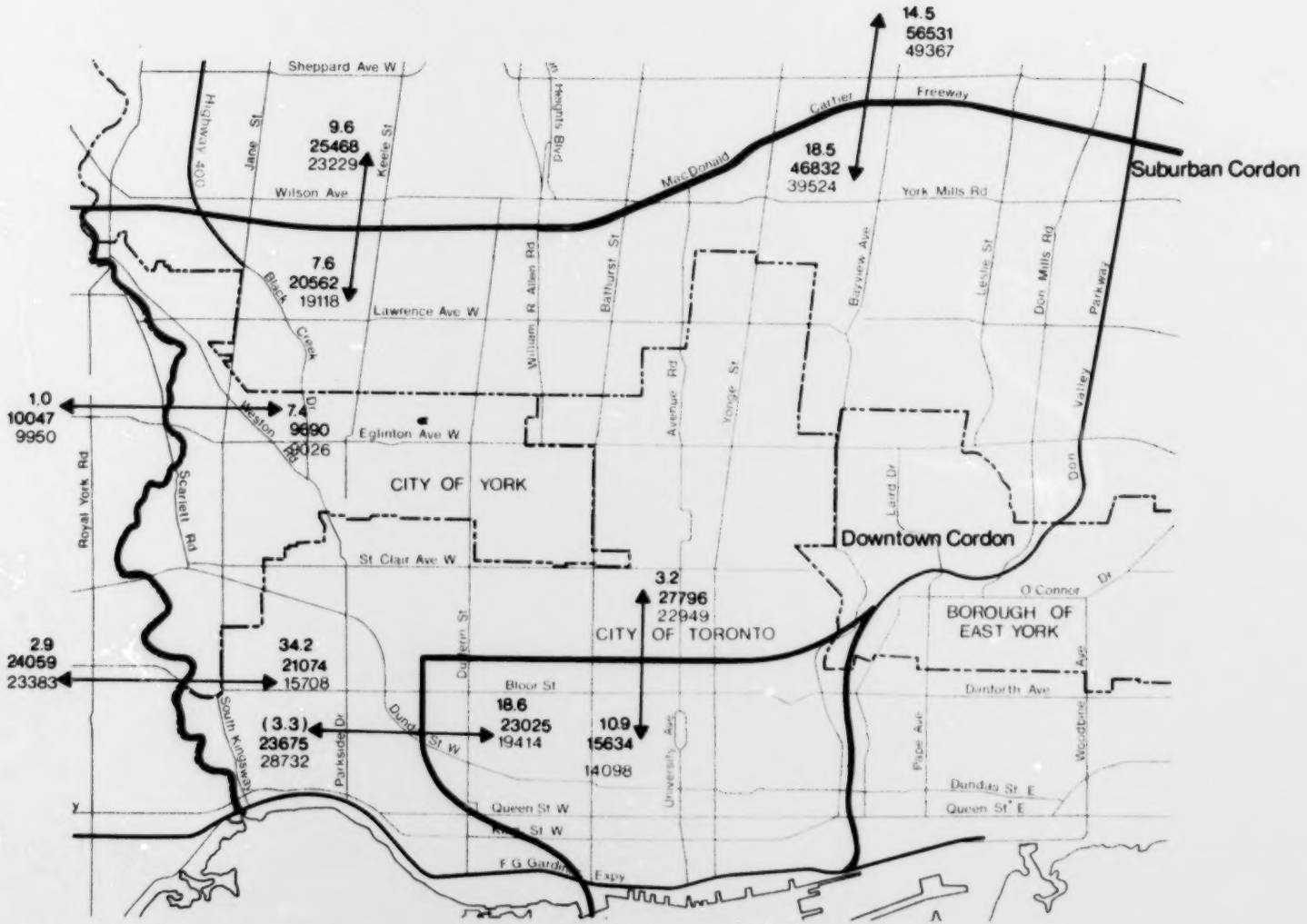
BLACK CREEK DRIVE TRAVEL MONITORING STUDY
MTPD MARCH 1986



1979 13019
1985 22328
% CHANGE 1979-1985
NEGATIVE ( )

BLACK CREEK DRIVE TRAVEL MONITORING STUDY
MTPD MARCH 1986

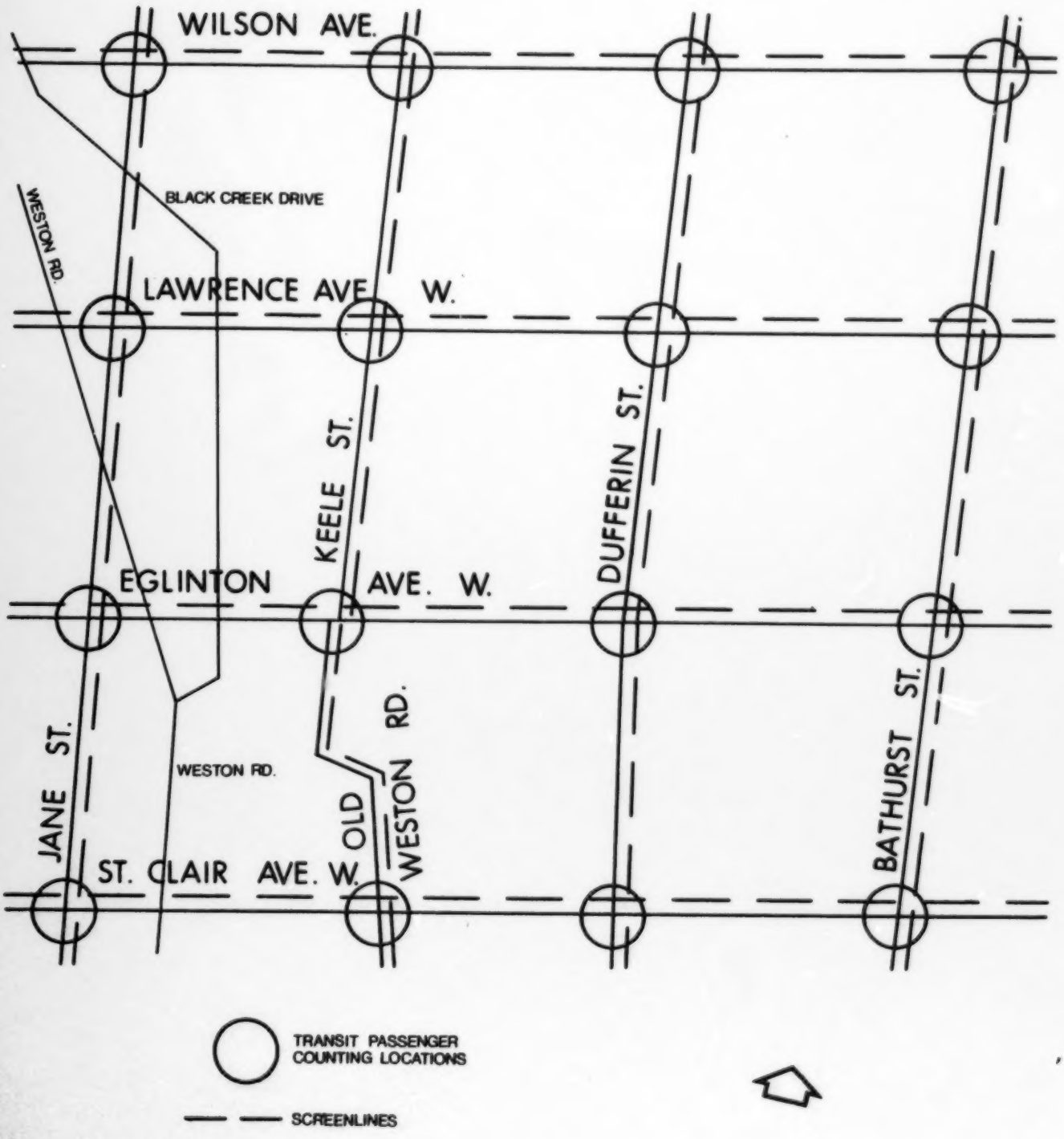
FIGURE 5:
METROPOLITAN TORONTO CORDON COUNT
A.M. PEAK PERIOD TOTAL VEHICLES (7:00-9:00)



1979 9957
1985 27796
% CHANGE 1979-1985
NEGATIVE ( )

BLACK CREEK DRIVE TRAVEL MONITORING STUDY
MTPD MARCH 1986

FIGURE 6 :
METROPOLITAN TORONTO CORDON COUNT
P.M. PEAK PERIOD TOTAL VEHICLES (4:00-6:00)



BLACK CREEK DRIVE TRAVEL MONITORING STUDY
MTPD MARCH 1986

FIGURE 7:
AUTO AND TRANSIT ANALYSIS SCREENLINES

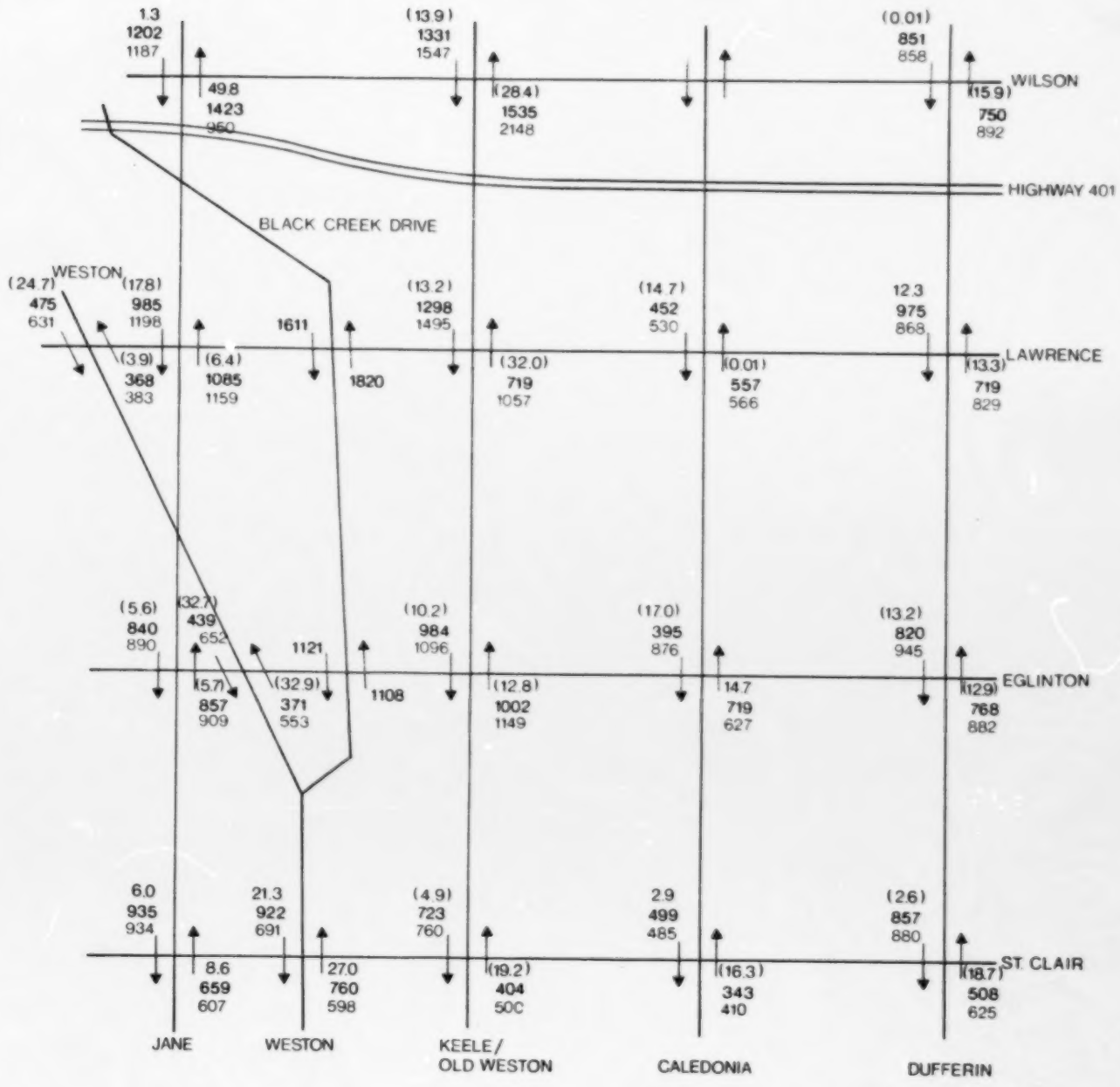


FIGURE 8 :
AUTO TRAFFIC VOLUMES ACROSS EAST-WEST SCREENLINES A.M. PEAK HOUR

BLACK CREEK DRIVE TRAVEL MONITORING STUDY
MTPD MARCH 1985

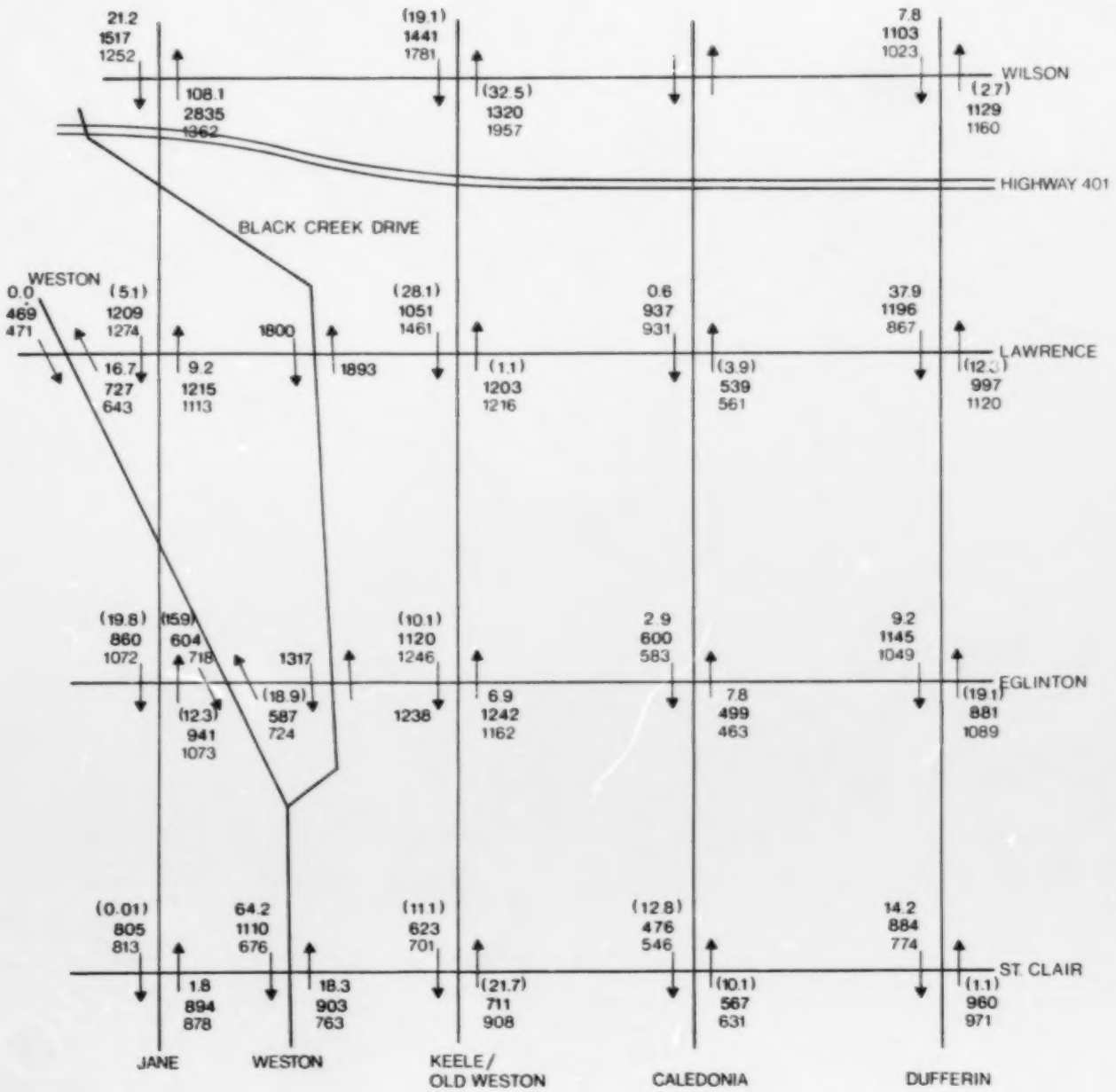


FIGURE 9 :
AUTO TRAFFIC VOLUMES ACROSS
EAST-WEST SCREENLINES
P.M. PEAK HOUR

BLACK CREEK DRIVE TRAVEL MONITORING STUDY
MTPD MARCH 1985

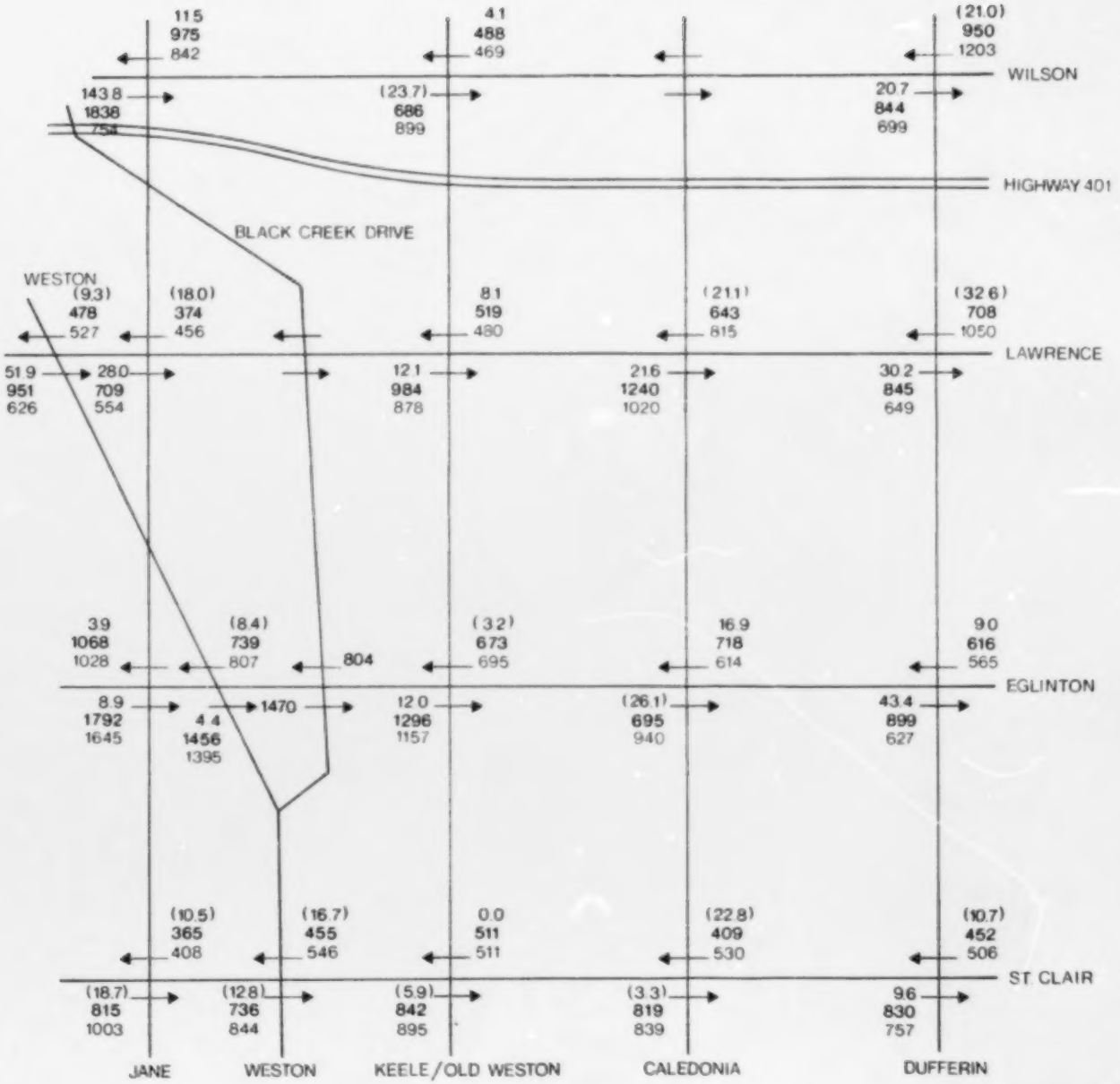


FIGURE 10:
AUTO TRAFFIC VOLUMES ACROSS NORTH-SOUTH SCREENLINES
A.M. PEAK HOUR

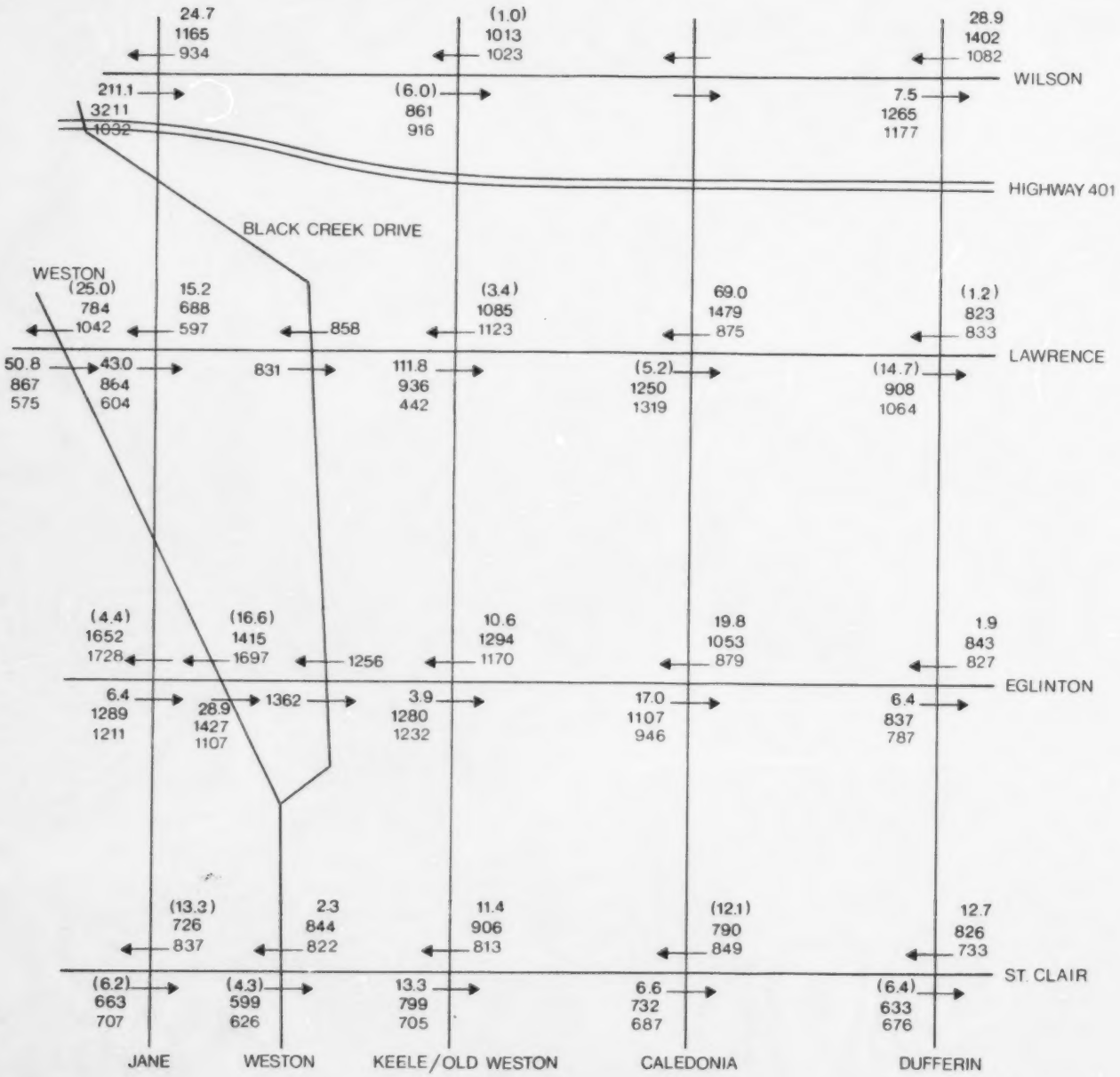


FIGURE 11 :
AUTO TRAFFIC VOLUMES
ACROSS NORTH-SOUTH SCREENLINES
P.M. PEAK HOUR

ROUTE PEAK HOUR VEHICLE PASSES
EGLINTON (24)

BLACK CREEK DRIVE TRAVEL MONITORING STUDY
MTPD MARCH 1986

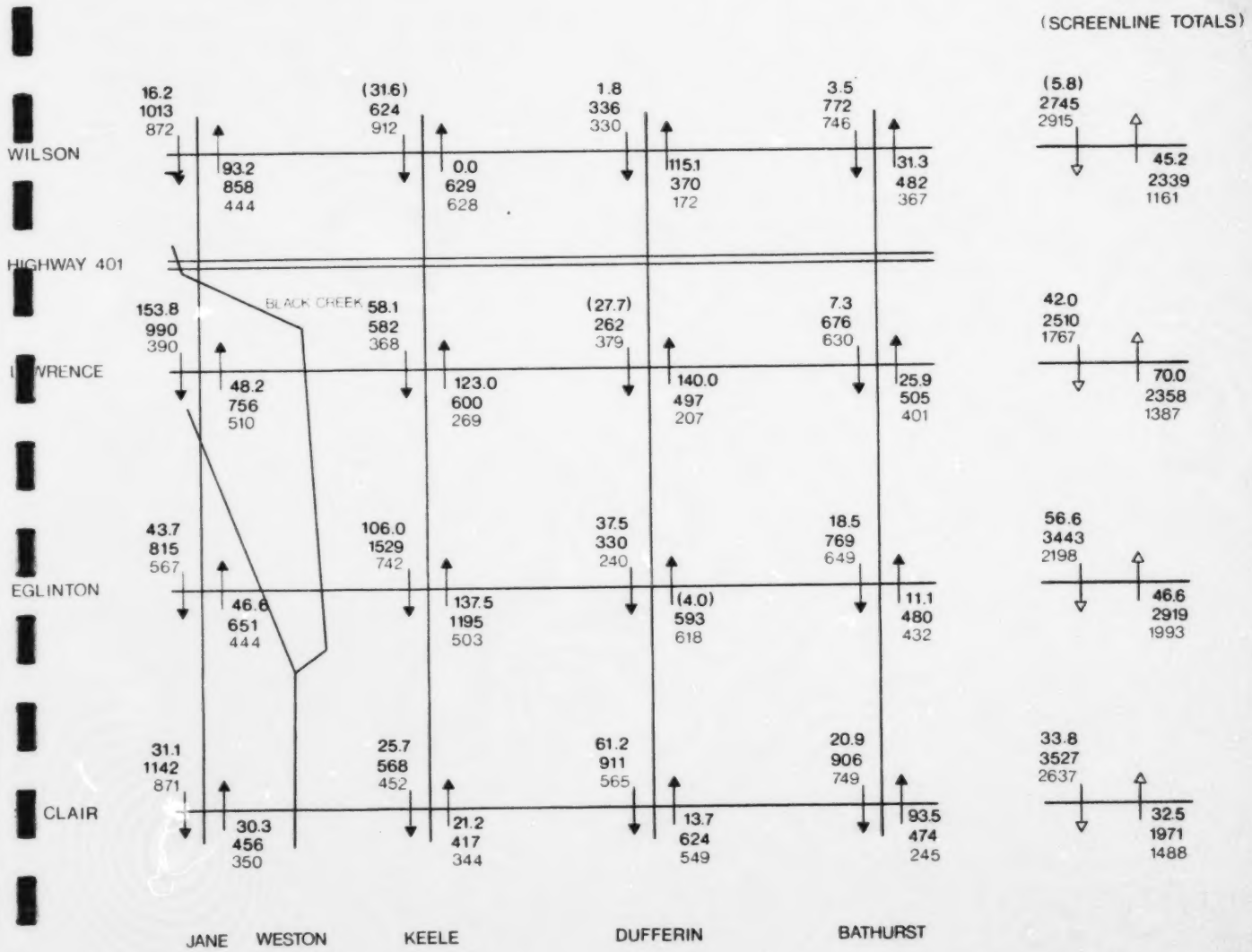
FIGURE : 12
1980 - TTC ROUTINGS IN STUDY AREA

ROUTE - PEAK HOUR VEHICLE PASSES
EGLINTON (24)

MAJOR ROUTE RESTRUCTURINGS SINCE 1980

FIGURE - 13
1985 - TTC ROUTINGS IN STUDY AREA

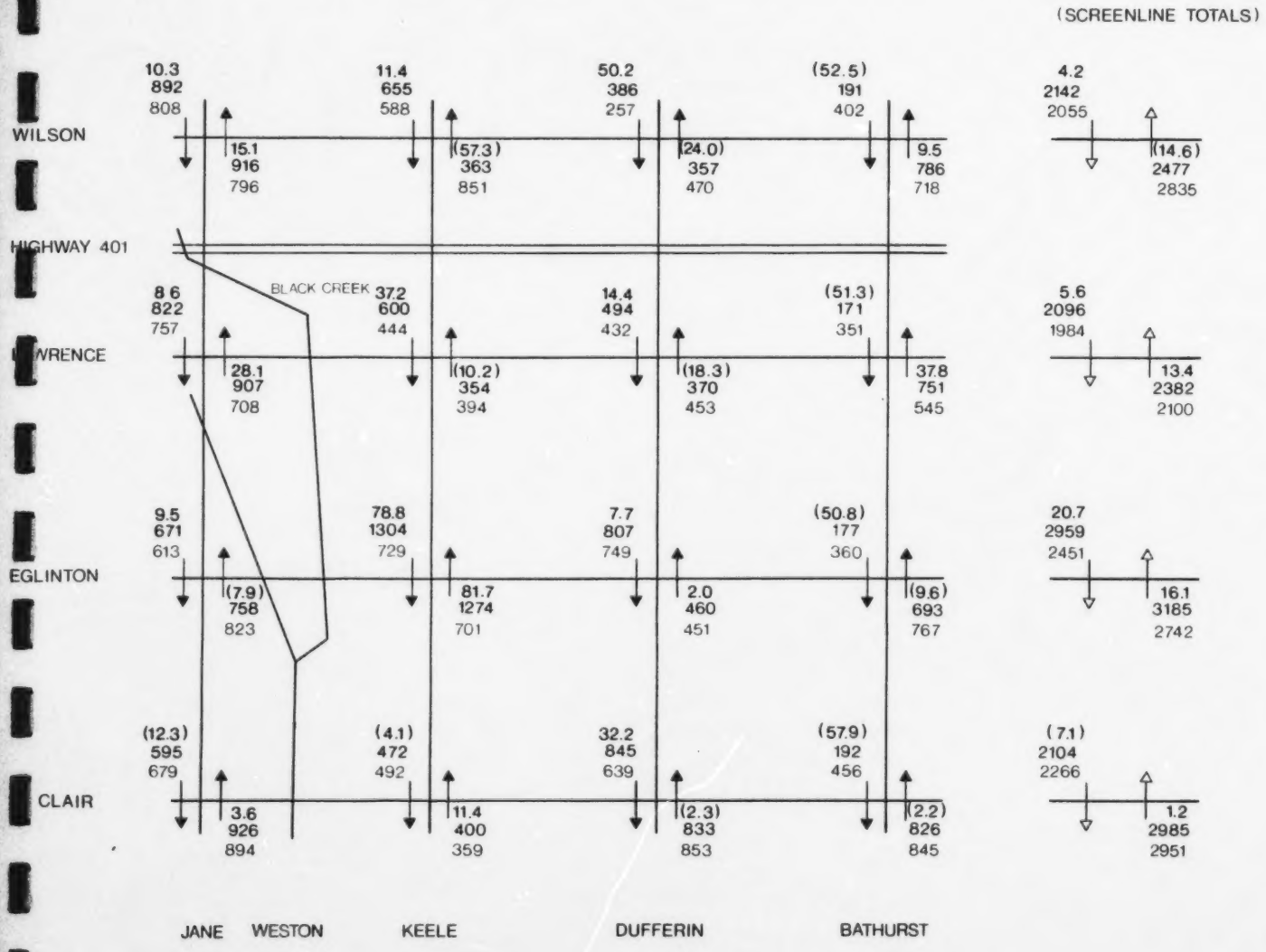
BLACK CREEK DRIVE TRAVEL MONITORING STUDY
MTPD MARCH 1986



1980 567
1985 527
% CHANGE 33.3
NEGATIVE ( )

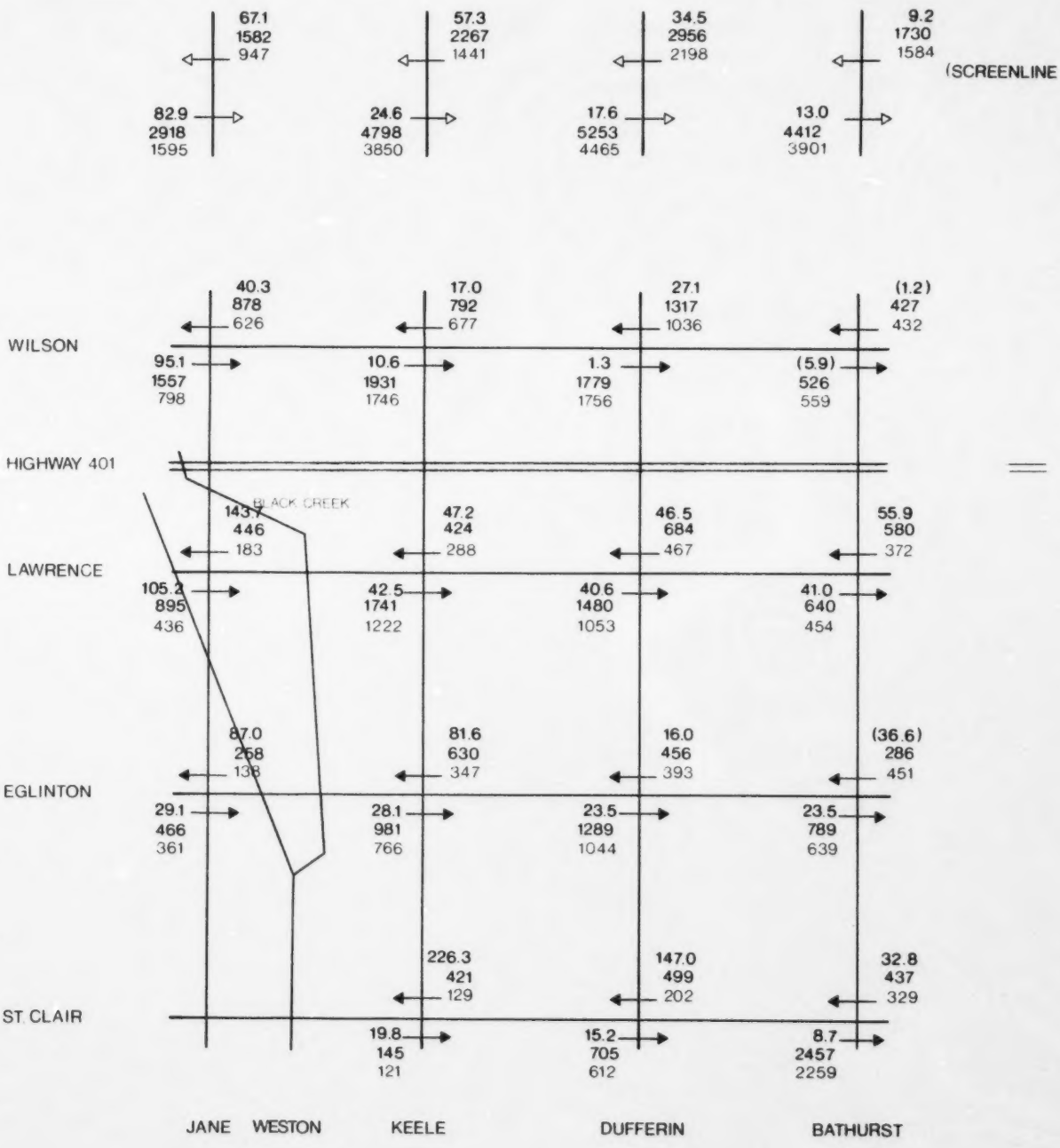
FIGURE 14:
TRANSIT PASSENGER VOLUMES ACROSS EAST-WEST SCREENLINES
A.M. PEAK HOUR

BLACK CREEK DRIVE TRAVEL MONITORING STUDY
MTPD MARCH 1986



1980 394
1985 822
% CHANGE 25.7
NEGATIVE ( )

FIGURE 15:
TRANSIT PASSENGER VOLUMES ACROSS EAST-WEST SCREENLINES
P.M. PEAK HOUR



1980 1036
1985 258
% CHANGE 42.6
NEGATIVE ( )

FIGURE 16:
TRANSIT PASSENGER VOLUMES ACROSS NORTH-SOUTH SCREENLINES A.M. PEAK HOUR

BLACK CREEK DRIVE TRAVEL MONITORING STUDY
MTPD MARCH 1986

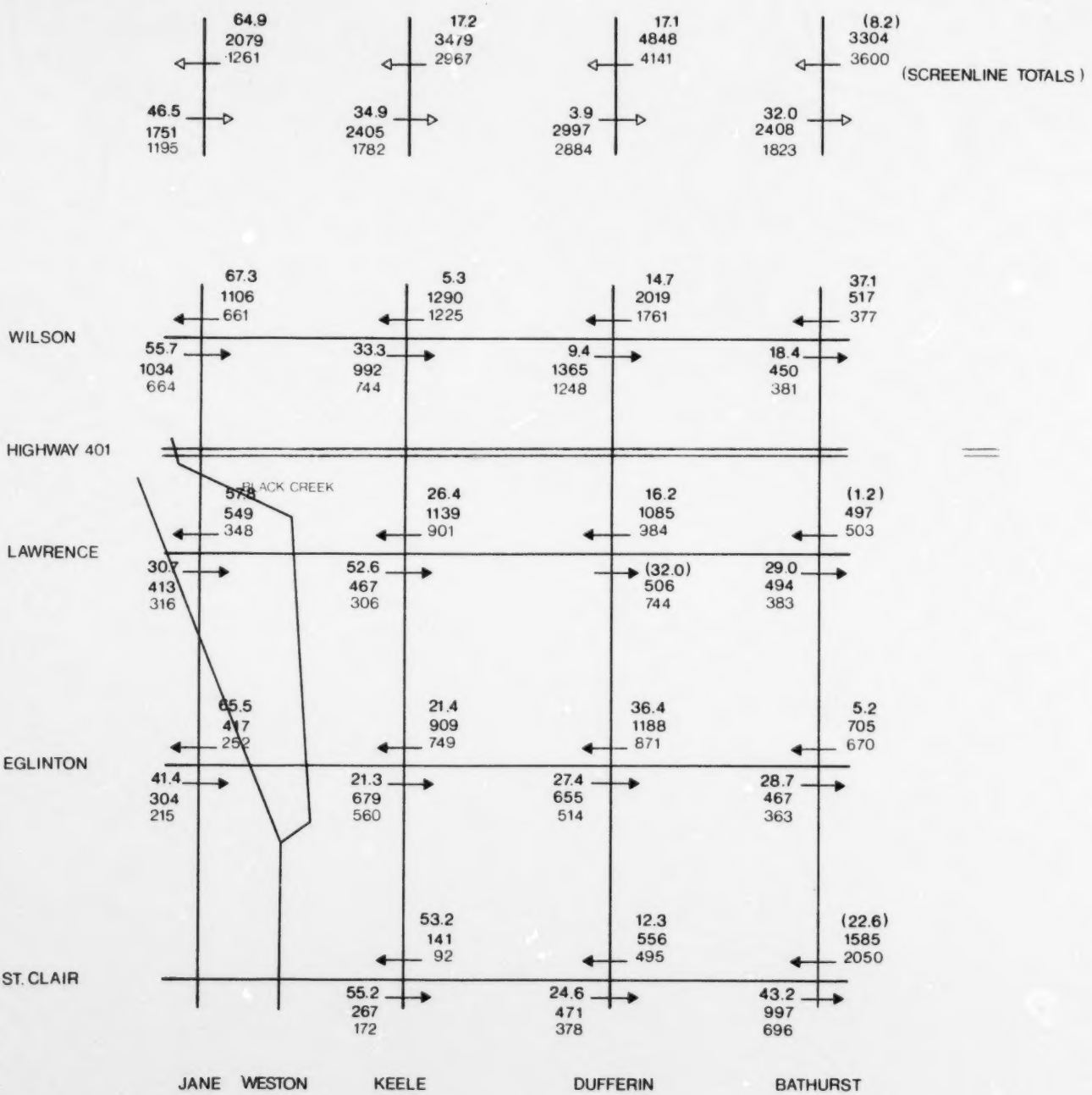
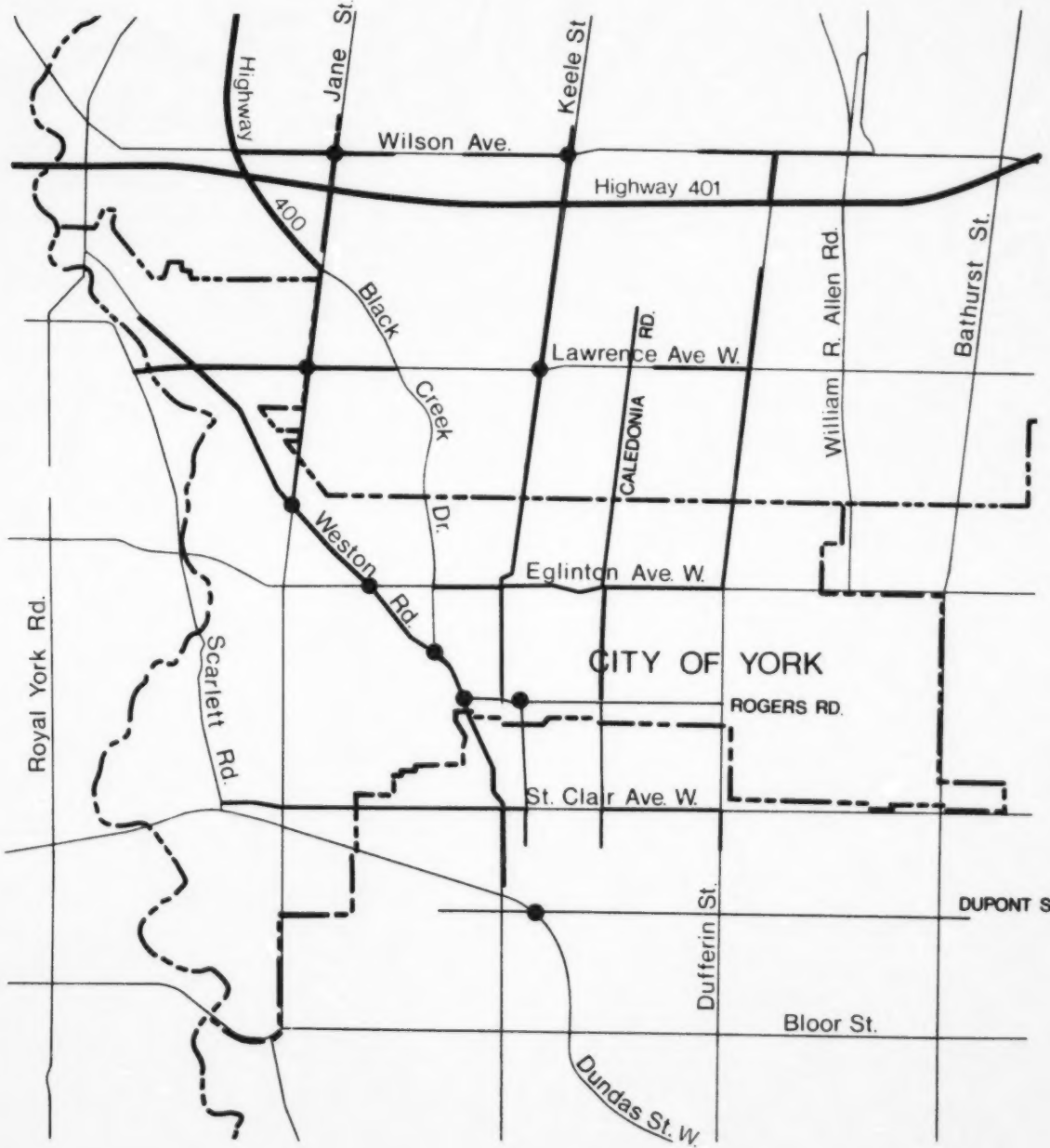


FIGURE 17:
TRANSIT PASSENGER VOLUMES ACROSS NORTH-SOUTH SCREENLINES
P.M. PEAK HOUR



PLUS 10% OR MORE
Road Sections
Intersections

MINUS 10% OR MORE
Road Section
Intersections

BLACK CREEK DRIVE TRAVEL MONITORING STUDY
MTPD MARCH 1986

FIGURE 13:
MAJOR TRAFFIC VOLUME CHANGES 1980-1985
A.M. PEAK HOUR

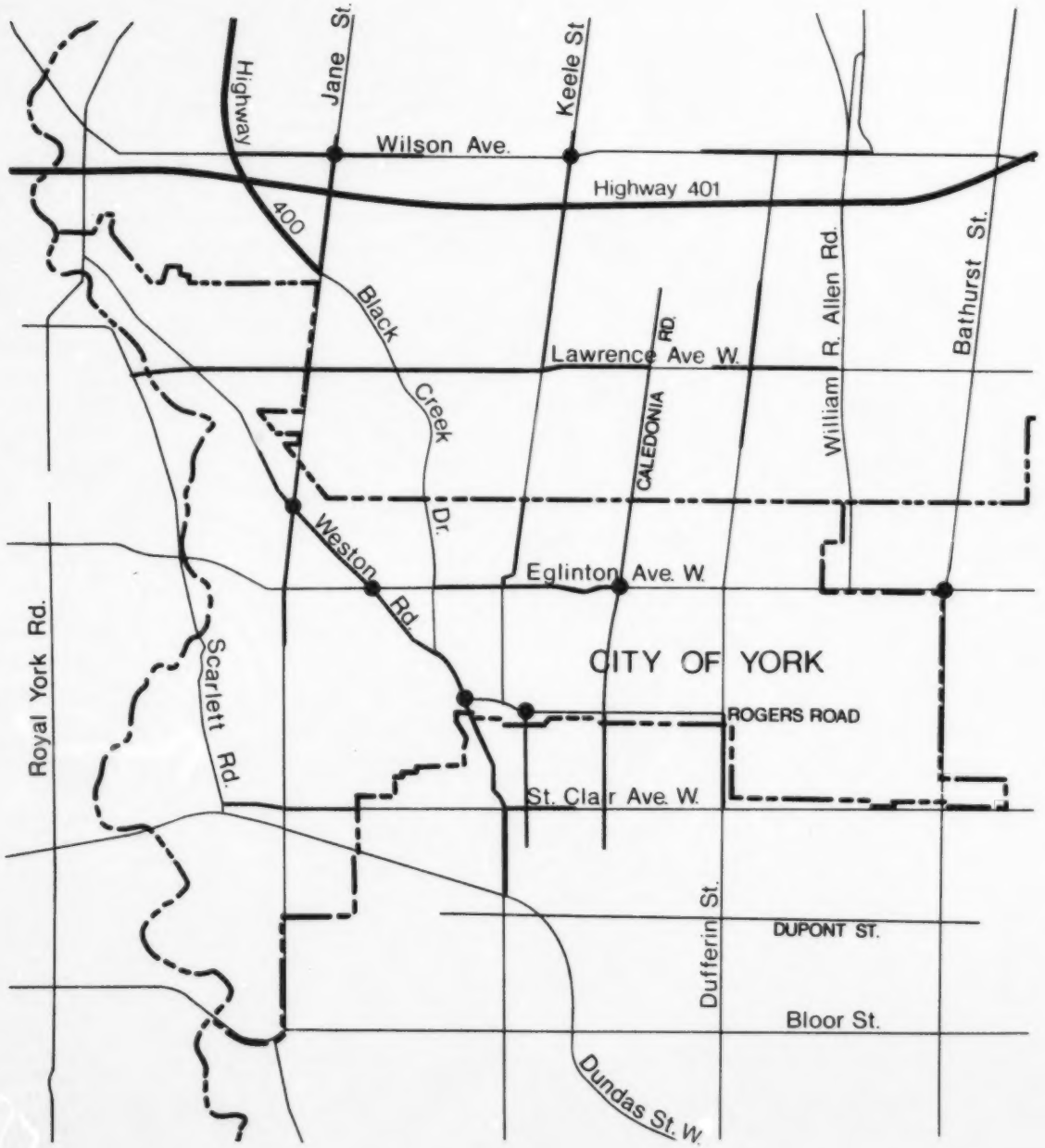


FIGURE 19:
MAJOR TRAFFIC VOLUME CHANGES 1980-1985
P.M. PEAK HOUR

BLACK CREEK DRIVE TRAVEL MONITORING STUDY
MTPD MARCH 1986

HIGHWAY 400

WILSON AVE.

HIGHWAY 401

CHURCH ST.

MAPLE LEAF DR.

CULFORD RD.

NORTH WEST

DENISON RD.

LAWRENCE AVE.

SEE DETAIL

WILSON AVE.

HIGHWAY 401

MAPLE LEAF DR.

CULFORD RD.

NORTH WEST

LAWRENCE AVE.

A SEE DETAIL

LAWRENCE AVE.

SEE DETAIL A

DENISON RD.

TRETHEWEY DR.

NORTH WEST

KEELE ST.

CALEDONIA RD.

DUFFERIN ST.

MARLEE AVE.

ALLEN RD.

WESTON RD.

ARTERIAL RD.

SEE DETAIL C

SEE DETAIL D

SEE DETAIL B

EGLINTON AVE.

ROGERS RD.

ST. CLAIR AVE.

SCARLETT RD.

JANE ST.

LAWRENCE AVE.

SEE DETAIL A

NORTH WEST

TRETHEWEY DR.

KEELE ST.

CALEDONIA RD.

DUFFERIN ST.

MARLEE AVE.

ALLEN RD.

BATHURST ST.

WESTON RD.

ARTERIAL RD.

SEE DETAIL C

SEE DETAIL D

SEE DETAIL B

EGLINTON AVE.

JANE ST.

ROGERS RD.

ST. CLAIR AVE.

RUNNYMEDE RD.

KEELE ST.

OLD WESTON RD.

DUNDAS ST.

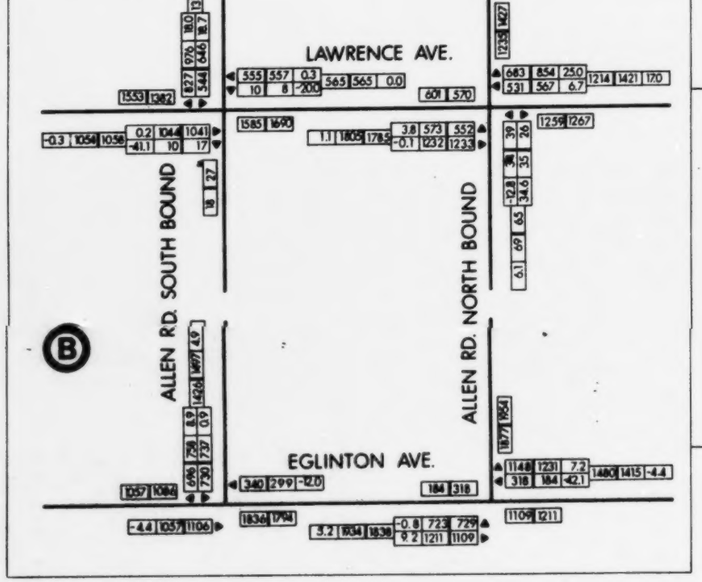
ST. CLAIR AVE.

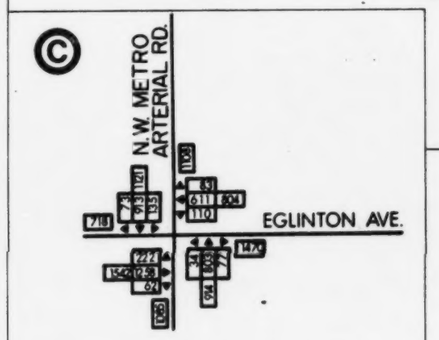
DAVENPORT RD.

DUPONT ST.

ANNETTE ST.

NOT A THROUGH STREET





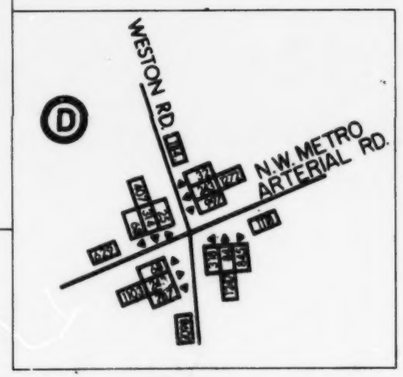


FIGURE A1

NORTH-WEST METRO ARTERIAL MONITORING STUDY

A.M. PEAK HOUR TRAFFIC FLOWS

NOT TO SCALE - SCHEMATIC ONLY
METROPOLITAN TORONTO PLANNING DEPT.

OCTOBER, 1980
REVISED JANUARY, 1985

	BEFORE	AFTER	% CHANGE	TOTAL BEFORE	TOTAL AFTER	% CHANGE
RIGHT TURN ▲						
STRAIGHT THROUGH ◀						
LEFT TURN ▼						

(Note) BEFORE COUNTS TAKEN MAY 1980
AFTER COUNTS TAKEN JUNE 1985

ST. CLAIR AVE.

DAVENPORT RD.

DUPONT ST.

RUNNYMEDE RD.

KEELE ST.

OLD WESTON RD.

DUNDAS ST.

ANNETTE ST.

NOT A THROUGH STREET

LAWRENCE AVE.

GLINTON AVE.

ALLEN RD. NORTH BOUND

EGLINTON AVE.

N.W. METRO ARTERIAL RD.

WESTON RD.

FIGURE A1

NORTH-WEST METRO ARTERIAL MONITORING STUDY

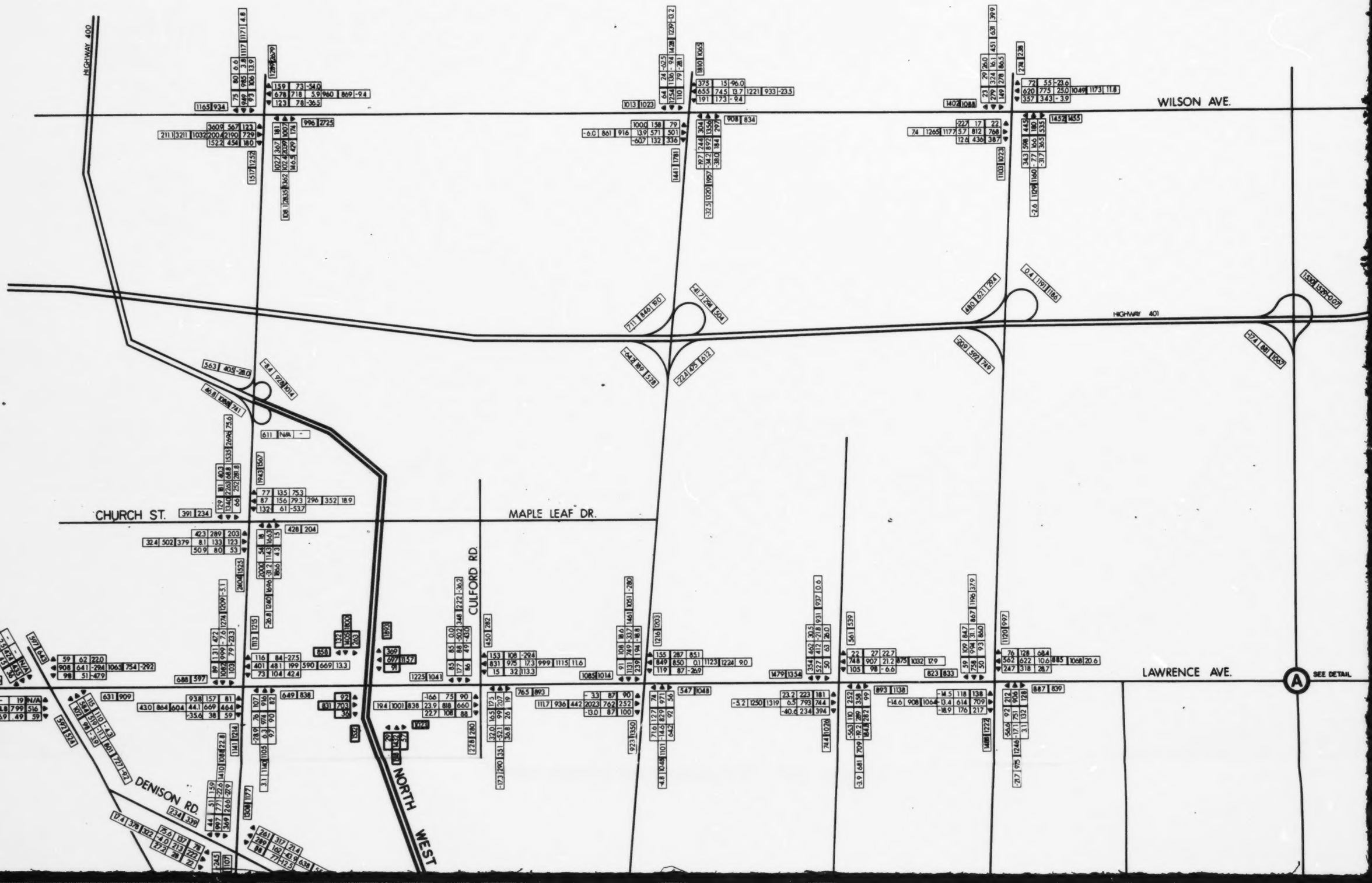
A.M. PEAK HOUR TRAFFIC FLOWS

NOT TO SCALE - SCHEMATIC ONLY
METROPOLITAN TORONTO PLANNING DEPT.

OCTOBER, 1980
REVISED JANUARY, 1986

	BEFORE	AFTER	%CHANGE	TOTAL BEFORE	TOTAL AFTER	%CHANGE
RIGHT TURN ▲						
STRAIGHT THROUGH ◀						
LEFT TURN ▼						

(Note) BEFORE COUNTS TAKEN MAY 1980
AFTER COUNTS TAKEN JUNE 1985


HIGHWAY 400
WILSON AVE.
HIGHWAY 401
CHURCH ST.
MAPLE LEAF DR.
CULFORD RD.
NORTH WEST
DENISON RD.
LAWRENCE AVE.
A
SEE DETAIL

WILSON AVE.

HIGHWAY 401

MAPLE LEAF DR.

CULFORD P.D.

NORTH WEST

LAWRENCE AVE.

A SEE DETAIL

LAWRENCE AVE.

SEE DETAIL A

DENISON RD.

TRETHEWEY DR.

WESTON RD.

NORTH WEST

KEELE ST.

ARTERIAL RD.

CALEDONIA RD.

DUFFERIN ST.

MARLEE AVE.

ALLEN RD.

SEE DETAIL C

SEE DETAIL D

EGLINTON AVE.

SEE DETAIL B

SCARLETT RD.

JANE ST.

ROGERS RD.

ST. CLAIR AVE.

LAWRENCE AVE.

SEE DETAIL A

NORTH WEST

KEELE ST.

CALEDONIA RD.

DUFFERIN ST.

MARLEE AVE.

ALLEN RD.

BATHURST ST.

TRETHEWEY DR.

WESTON RD.

ARTERIAL RD.

SEE DETAIL C

SEE DETAIL D

JANE ST.

EGLINTON AVE.

SEE DETAIL B

ROGERS RD.

ST. CLAIR AVE.

ST. CLAIR AVE.

DAVENPORT RD.

DUPONT ST.

RUNNYMEDE RD.

KEELE ST.

OLD WESTON RD.

DUNDAS ST.

ANNETTE ST.

NOT A THROUGH STREET

LAWRENCE AVE.

EGLINTON AVE.

ALLEN RD. SOUTH BOUND

ALLEN RD. NORTH BOUND

N.W. METRO ARTERIAL RD.

EGLINTON AVE.

WESTON RD.

N.W. METRO ARTERIAL RD.

FIGURE A'2

NORTH-WEST METRO ARTERIAL MONITORING STUDY

P. M. PEAK HOUR TRAFFIC FLOWS

NOT TO SCALE - SCHEMATIC ONLY
METROPOLITAN TORONTO PLANNING DEPT.

OCTOBER 1980
REVISED JANUARY 1980

	BEFORE	AFTER	%CHANGE	TOTAL BEFORE	TOTAL AFTER	%CHANGE
RIGHT TURN ▲						
STRAIGHT THROUGH ◀						
LEFT TURN ▼						

(Note) BEFORE COUNTS TAKEN MAY 1980
AFTER COUNTS TAKEN JUNE 1980

RUNNYMEDE RD.

KEELE ST.

OLD WESTON RD.

DUNDAS ST.

ST. CLAIR AVE.

DAVENPORT RD.

DUPONT ST.

ANNETTE ST.

LAWRENCE AVE.

EGLINTON AVE.

ALLEN RD. NORTH BOUND

NOT A THROUGH STREET

© N.W. METRO ARTERIAL RD. EGLINTON AVE.

(D) WESTON RD. N.W. METRO ARTERIAL RD.

FIGURE A'2

NORTH-WEST METRO ARTERIAL MONITORING STUDY

P. M. PEAK HOUR TRAFFIC FLOWS.

NOT TO SCALE - SCHEMATIC ONLY
METROPOLITAN TORONTO PLANNING DEPT.

OCTOBER, 1980
REVISED JANUARY 1986

	BEFORE	AFTER	% CHANGE	TOTAL BEFORE	TOTAL AFTER	% CHANGE
RIGHT TURN ▲						
STRAIGHT THROUGH ◀						
LEFT TURN ▼						

(Note) BEFORE COUNTS TAKEN MAY 1980
AFTER COUNTS TAKEN JUNE 1980